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# M.A.C.E. JOURNAL

*"Devoted Exclusively To The Atari Computer User"*

THE  
GOOD  
OLD  
DAYS

REVIEWS

ST  
NEWS

I/O  
ERRORS

## HAPPY BIRTHDAY

AMAZED:  
M/L  
GAME!

MACE  
DISK  
REVIEWS

MODEMS

## MACE

FAMILY  
FINANCES  
REVIEW

X:  
HANDLER

DOS  
DRIVER

ATARI  
LOGO

AND  
MORE!!

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## FIRESIDE CHAT



Well, here we go again! Just as we were trying to get Atari to send us an ST they turn around and delay another 3 months. I wish I could tell you the real reason, but I don't know. According to the Wall Street Journal the ST is being released on schedule in Europe; however, the OS is not in ROM. Actually it is on disk and uses about half of the RAM!

As rumor has it, the only products that will actually be released are the 130XE, which is available now, and the 520ST. All the other goodies have been dumped. Why, you ask? For the ST, only the higher-ups at Atari themselves know, maybe. As for the 65XE, it's because the 800XL already meets the demand for a 64k machine. Does that make sense? Of course not! What it means is that Atari will now have two machines, a 130XE and a 800XL, on the market that are not compatible for hardware expansion. By that I am referring to the expansion slots. But with Atari, you never know. They may just surprise us and release something really great for the right hand cartridge slot on the old 800 which they probably should have stuck with in the first place!

Atari, Inc. is really a very strange company to talk to. When I spoke with Dave Duberman, the User Group Coordinator, he told me of the great user group ST plan. I made a mistake and fell for it! Remember at last month's meeting I said, "By the end of April we'll have them"? Geez, did I blow it!

I tried to get Atari to send us an ST to review with the thought that it would be nice for our membership to see it before we just laid out our money. Mr. Duberman thought that was a reasonable request, but, I guess it wasn't reasonable enough. So, I suppose, using Atari-type reasoning, we just wait and then when Atari says, "Ok, it's here", we all stream into the stores to buy one. Well, I just don't think that's going to work. Maybe someday Atari will realize that they have quite a large and loyal following and really show us some of the support they always promise. Until then, of course, we just sit and wait.

Now for some other stuff. Here we are, MACE, five years later and still going strong! I know things have changed a lot in the last few months and I want to thank all of you, on behalf of myself and all the officers, for all the support you've given us! Our membership is holding up, the Journal looks great, and we are financially secure! Again, thanks to each and every one of you for making this the largest, and best, user group in the world!

Kirk

## BULLETIN BOARD UPDATES

Please note these new numbers for Alva Thomas, Vice President of MACE:

(313) 287-3512 Voice

(313) 287-4824 Dartboard BBS

The Freedom Board [(313) 771-4126], run by MACE Disk Librarian Dave Zappa, is now running at 300/1200 bps, still 24 hours a day.

The Cutting Board has expanded to 24 hours, 300/1200 bps and has a new number! (313) 291-7766.

The Superboard number has been disconnected.

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Submissions to the Journal can be mailed to the PO Box, uploaded to the MACE BBSs, any officer's BBS, or uploaded directly to the editor at 646-4455. Where possible, submissions should include a disk or tape file in AtariWriter or similar format and a working copy of the program. Specify format for screen dumps (AtariArtist, Koalapad, etc.). Authors whose submissions are published will receive a certificate good for a free disk or tape from the MACE library. Deadline for submissions is the first of each month.



## THE X: HANDLER

Using the XL's Extra Memory As a Device

by Ken Alexander

The Atari XL computers have an extra 16K of RAM hidden beneath their ROM. This is why the XL's boast 64K RAM while the 800's have only 48K. However, this extra memory almost always goes to waste. There are many new products coming out soon that will use it, but currently there are very few programs besides the Translator Disk and DOS XL that utilize it; most don't even know about it. In BASIC and all other languages the XL's still have the same amount of free memory as a 48K 800. What good is the extra memory if it is not used?

This program allows you to access 14K of the extra 16K as device X: (2K is always allotted to I/O space). You can do most things with it that you can do with any other device; you can SAVE "X:", LOAD "X:", PRINT to a channel opened to X:, GET from a channel opened to X:, etc. You can also NOTE and POINT as with a disk drive. The X: device will not be killed by <RESET>. Anything saved to it will be completely invisible to everything except the X: handler itself. Do not use X: when the DOSXL.XL file of DOS XL is in use, or DOS will be clobbered.

To use the program, type in the BASIC listing. It will ask you for a filespec (D:AUTORUN.SYS or C:) and then create that file. An alternate way to do it is to type in the assembler version and save it as AUTORUN.SYS. After rebooting the computer or loading the file from DOS, you will have device X: at your disposal. From BASIC try LIST "X:" when there is a program in memory. The screen will flicker as the ROM character set is switched on and off. This flicker serves the same purpose as the beeping of the disk drive. Type NEW and then LIST the program to verify that it is gone. Now type ENTER "X:" and LIST again. Ta da! It's back. If the X: handler should lock up the computer and leave a bunch of squiggly lines on the screen, press <RESET> and try the operation again. Check to make sure you typed in the program correctly.

## HOW IT WORKS

CIO, the Central Input/Output utility in the operating system, organizes I/O by devices. Each device has its own handler (or driver), which is a program that has the routines necessary to communicate with that device. There are five device handlers resident in the OS ROM: the screen editor E:, the display handler S:, the keyboard handler K:, the printer handler P:, and the cassette handler C:. Each has a vector table with pointers to five routines: OPEN the device, CLOSE the device, GET a byte from the device, PUT a byte to the device, get the STATUS of the device, and do a device-dependent or special XIO command. Some of the routines in each handler are not used, because you cannot input (OPEN #chan, 4,...) from the printer or output (OPEN #chan, 8,...) to the keyboard. The five resident handlers have their vector tables in order in ROM starting at \$E400 (58368), each having 16 bytes allotted to it. There are the six vectors of two bytes each, a JMP to the power-up initialization of the device, and a spare byte. CIO keeps track of where the vector tables for the handlers are by keeping a handler address table, HATABS, which starts at \$31A (794). Each entry in the table takes up three bytes: the designation letter (E, S, K, etc.), and the two-byte address of the handler's vector table. Additional entries can be added to the table; the D: handler is added upon booting DOS, and the X: handler is added upon loading this program. Whenever I/O is done, a call is made to CIO, which tracks down the device handler and takes care of everything.

At the beginning of the program there is a routine that makes X: reset-proof. It steals the DOS re-init vector and changes it to point to the X: re-init routine, which restores both the D: and X: entries to HATABS after each reset. Following this is the X: vector table, and then the actual routines. These routines are similar to ones used by Bill Wilkinson for his program that used ordinary memory as a device from the September 1982 Compute! magazine. Near the end of the program there are two routines that manage the OS ROM while bytes are being read or written to the RAM underneath it. Before disabling the ROM to expose the RAM underneath, all interrupts that use the ROM must be disabled, because if

an interrupt happens when there are no ROM interrupt routines the system will crash. Bit zero of PIA chip location \$D301 (54017, formerly PORTB in the 400/800) controls the state of the OS ROM, and bit one controls the state of the BASIC ROM. There is also a routine that makes sure all reading and writing of data skips over the I/O chip region from \$D000 to \$D7FF (53248 to 55295).

The X: device is useful as a RAMdisk. It is much faster than floppies and can contain up to 14K of data without giving an error. This is the equivalent of over 100 single density sectors. Random access can be obtained after opening X: by using NOTE and POINT with the low and high bytes of the desired address instead of the sector and byte numbers of a disk. X: can be opened for append by OPEN #chan,9,0,"X:". X: is perfect for temporary, fast storage. Have fun.

```

5 REM *** X: Creator Program ***
7 DIM F$(15)
10 GRAPHICS 0: ? "X: creator": ? : ? "checking data..."
15 LINE=1000: TRAP 90
20 FOR X=1 TO 10: READ BYTE
30 TOT=TOT+BYTE
40 IF TOT>999 THEN TOT=TOT-1000
50 NEXT X: READ CHKSUM
60 IF TOT<>CHKSUM THEN ? "data error in line "; LINE: END
70 LINE=LINE+10: GOTO 20
90 IF LINE<1300 THEN ? "missing a data line": END
100 ? "enter DEV:FILENAME";: INPUT F$
105 ? "creating file..."
110 RESTORE 1000
120 OPEN #1,8,0,F$
130 TRAP 200
140 FOR X=1 TO 10: READ BYTE
150 PUT #1,BYTE:NEXT X
160 READ CHKSUM: GOTO 140
200 IF PEEK(195)<>6 THEN ? "error "; PEEK(195): END
210 CLOSE #1: ? "awesome...file completed!": END
1000 DATA 255,255,0,34,251,34,165,12,1
41,60,207
1010 DATA 34,165,13,141,61,34,169,59,1
33,12,28
1020 DATA 169,34,133,13,169,31,141,231
1030 DATA 35,141,232,2,160,0,185,26,3,

```

```

240,144
1040 DATA 8,200,200,200,192,34,144,244
,96,169,631
1050 DATA 88,153,26,3,169,66,153,27,3,
169,488
1060 DATA 34,153,28,3,96,32,65,34,32,1
0,975
1070 DATA 34,96,77,34,97,34,119,34,132
,34,666
1080 DATA 150,34,174,34,189,74,3,201,9
,240,774
1090 DATA 86,169,0,141,26,35,169,192,1
41,27,760
1100 DATA 35,76,171,34,189,74,3,41,8,2
40,631
1110 DATA 66,173,26,35,141,28,35,173,2
7,35,370
1120 DATA 141,29,35,76,171,34,32,151,3
4,176,249
1130 DATA 42,32,233,34,177,224,76,255,
34,172,528
1140 DATA 27,35,240,29,72,32,216,34,10
4,32,349
1150 DATA 233,34,145,224,76,255,34,172
,27,35,584
1160 DATA 32,216,34,204,29,35,208,9,20
5,28,584
1170 DATA 35,208,4,160,136,56,96,160,1
,24,464
1180 DATA 96,189,66,3,201,37,208,16,18
9,77,546
1190 DATA 3,201,192,144,24,141,27,35,1
89,76,578
1200 DATA 3,141,26,35,173,26,35,157,76
,3,253
1210 DATA 173,27,35,157,77,3,76,171,34
,160,166
1220 DATA 171,96,173,26,35,133,224,192
,208,208,632
1230 DATA 5,160,216,140,27,35,132,225,
96,172,840
1240 DATA 1,211,140,30,35,160,0,140,14
,210,781
1250 DATA 140,14,212,160,252,140,1,211
,252,34,197
1260 DATA 30,35,160,0,96,172,30,35,140
,1,896
1270 DATA 211,160,64,140,14,212,164,16
,140,14,31
1280 DATA 210,238,26,35,208,3,238,27,3
5,160,211
1290 DATA 1,96,0,0,0,0,0,224,2,225,759
1300 DATA 2,0,34,0,0,0,0,0,0,795
1310 REM * 310 BYTES

```

```

10      .OPT NO EJECT,OBJ
20      .TITLE "XL X: Handler"
30 ; *****
40 ; *   Program to access   *
50 ; *   XL's extra memory   *
60 ; *   as device X:       *
0100 ; *****
0110 ;
0120 ICAUX1 = $034A ;open mode
0130 ICCOM = $0342 ;special com #
0140 DOSINI = $0C ;DOS init vector
0150 MEMLO = $02E7 ;bot of free mem
0160 FR1 = $E0 ;page 0 storage
0170 EOF = $88 ;end-of-file
0180 PTBAD = $AB ;Point invalid
0190 HATABS = $031A ;device handler a
ddress table
0200 POKMSK = $10 ;saves contents o
f IRQEN
0210 IRQEN = $D20E ;POKEY IRQ interr
upt control
0220 NMIEEN = $D40E ;ANTIC NMI interr
upt control
0230 PORTB = $D301 ;XL ROM control
0240 ;
0250 *= $2200 ;above DOSXL
0260 ;
0270 INIT LDA DOSINI ;save DOS init
0280 STA REINIT+1
0290 LDA DOSINI+1
0300 STA REINIT+2
0310 INIT2 LDA # <REINIT ;X: init
0320 STA DOSINI
0330 LDA # >REINIT
0340 STA DOSINI+1
0350 LDA # <ENDX ;move MEMLO up
0360 STA MEMLO
0370 LDA # >ENDX
0380 STA MEMLO+1
0390 ;
0400 ;install device X: in HATABS
0410 LDY #0
0420 HLOOP LDA HATABS,Y ;found spot?
0430 BEQ EMPTY
0440 INY ;point to next
0450 INY
0460 INY
0470 CPY #34 ;end of HATABS?
0480 BCC HLOOP ;keep looking
0490 RTS ;no room
0500 EMPTY LDA #'X
0510 STA HATABS,Y ;X: in table
0520 LDA # <VECTBL ;X: vectors
0530 STA HATABS+1,Y

```

```

0540 LDA # >VECTBL
0550 STA HATABS+2,Y
0560 RTS
0570 ;
0580 ;DOSINI points here for X: reinit
on reset
0590 REINIT JSR XXXX ;init D:
0600 JSR INIT2 ;init X:
0610 XXXX RTS
0620 ;
0630 ;X: vector table for CIO
0640 ;
0650 VECTBL .WORD OPEN-1
0660 .WORD CLOSE-1
0670 .WORD GETB-1
0680 .WORD PUTB-1
0690 .WORD STATUS-1
0700 .WORD SPECIAL-1
0710 ;
0720 ;the actual X: routines
0730 ;
0740 OPEN LDA ICAUX1,X ;open mode
0750 CMP #9 ;append?
0760 BEQ STATOK
0770 LDA #0
0780 STA XCUR ;init pointer
0790 LDA #$C0 ;to the start
0800 STA XCUR+1 ;of ROM
0810 JMP STATOK
0820 ;
0830 CLOSE LDA ICAUX1,X ;open mode
0840 AND #8 ;for output?
0850 BEQ STATOK ;no, return
0860 LDA XCUR
0870 STA XSTOP ;save XCUR
0880 LDA XCUR+1 ;so next read won
't pass EOF
0890 STA XSTOP+1
0900 JMP STATOK
0910 ;
0920 GETB JSR STATUS ;more bytes?
0930 BCS ERREOF ;nope
0940 JSR DISABLE ;ROM and interrup
ts
0950 LDA (FR1),Y ;get byte
0960 JMP ENABLE ;ROM and interrup
ts and inc XCUR
0970 ;
0980 PUTB LDY XCUR+1 ;past $FFFF?
0990 BEQ ERREOF
1000 PHA ;save byte
1010 JSR MOVCUR ;move pointer to
current byte into FR1
1020 PLA ;retrieve byte

```

```

1030 JSR DISABLE
1040 STA (FR1),Y ;put byte
1050 JMP ENABLE
1060 ;
1070 STATUS LDY XCUR+1
1080 JSR MOVCUR ;XCUR to A and Y
1090 CPY XSTOP+1 ;past the end?
1100 BNE STATOK
1110 CMP XSTOP
1120 BNE STATOK
1130 ERREOF LDY #EOF ;return error
1140 SEC
1150 RTS
1160 STATOK LDY #1
1170 CLC
1180 RTS
1190 ;
1200 SPECIAL LDA ICCOM,X ;get command
1210 CMP #25 ;Point?
1220 BNE NOTE ;no, Note
1230 POINT LDA ICAUX1+3,X ;sector #
1240 CMP #C0
1250 BCC PTERR ;out of range
1260 STA XCUR+1 ;store in XCUR
1270 LDA ICAUX1+2,X
1280 STA XCUR
1290 NOTE LDA XCUR
1300 STA ICAUX1+2,X ;XCUR to IOCB
1310 LDA XCUR+1
1320 STA ICAUX1+3,X
1330 JMP STATOK
1340 PTERR LDY #PTBAD
1350 RTS
1360 ;
1370 ;misc routines
1380 ;
1390 ;move the current-byte pointer to
page 0 for ind addressing
1400 MOVCUR LDA XCUR ;move pointer
1410 STA FR1
1420 CPY #D0 ;I/O space?
1430 BNE NOTIO
1440 LDY #DB ;move past
1450 STY XCUR+1 ;store change
1460 NOTIO STY FR1+1
1470 RTS
1480 ;
1490 DISABLE LDY PORTB
1500 STY HPORTB ;save PORTB
1510 LDY #0
1520 STY IRQEN ;destroy IRQ's
1530 STY NMEN ;crush NMI's
1540 LDY #FC
1550 STY PORTB ;demolish OS

```

```

1560 LDY #0
1570 RTS
1580 ;
1590 ENABLE LDY HPORTB ;restore ROM
1600 STY PORTB
1610 LDY #40
1620 STY NMEN ;restore VBI's
1630 LDY FOKMSK
1640 STY IRQEN ;enable IRQ's
1650 INC XCUR ;increment XCUR
1660 BNE NOT0
1670 INC XCUR+1
1680 NOT0 LDY #1
1690 RTS
1700 ;
1710 ;memory storage
1720 ;
1730 XCUR .WORD 0 ;address of next
byte for get and put
1740 XSTOP .WORD 0 ;address of end o
f data after close
1750 HPORTB .BYTE 0 ;holds contents o
f PORTB
1760 ENDX
1770 *= $02E0 ;autorun
1780 .WORD INIT
1790 .END

```

# MACE

IS PROUD  
TO WELCOME  
ITS FIRST

SUSTAINING MEMBER:

JIM STEINBRECHER

SECTOR ONE  
INTERNATIONAL



## THE GOOD OLD DAYS

At one of our officers' meetings someone came up with the idea of having all of the past presidents of MACE write a little something about their years in office for the Birthday issue of the Journal. Here, for your edification and entertainment, are the results of that idea:

## IN THE BEGINNING

by Ashby Woolf  
MACE President 1981

Imagine a room full of people who would pay \$1,600.00 (1985 dollars) for an 8K computer with no software, no documentation, no disk drive, no printer, and no place to get it repaired. MACE was born in January of 1981, a crazed bunch which included many who had spent years working with large machines. The Atari 800 would perform like computers that several years earlier would have cost over \$100,000.00; it looked cheap.

After about a year of hacking, alone or in small groups, it became obvious that a large group of hackers would have more fun. In January of 1981, I organized a plot to form the group. The gang at the Lyceum volunteered to gather up the addresses from their Atari warranty cards and send out a mailing to announce a meeting to form a new Atari user group. The group that gathered was made up of about half professional programmers and half others, usually with a strong interest in programming. After all, with the lack of available software, programming and playing Star Raiders were the principal Atari owner pastimes.

The name MACE was selected via a contest won by our first newsletter editor, John Earl. We met at the Lyceum for several months until we grew a bit larger than the store. We moved about from computer store to computer store, visiting the Computer Connection and Spectrum, then in the late summer filled and overflowed the Oak Park Community Center.

In the period from January to October 1981 we built the structure of the organization and grew by a factor of 10 or more (from about 20 to several hundred). The only way to survive and grow at that rate was to recruit leaders and get out of their way. The foundation of MACE was built by those initial leaders. They were:

Arlan Levitan, Vice President  
Jonathan Earl, Newsletter Editor  
Gary Luzier, Program Director  
Sheldon Leemon, Secretary  
Judy Braun, Treasurer  
Mark Davids, Disk Librarian  
Rod Graham, Tape Librarian

The work done by this group was fantastic. In the fall of 1981 we elected Arlan Levitan as the second president of MACE and he lead the group's growth by another factor of 10. In those first few years we wondered if we would have to move to Cobo Hall.

## NEXT IN LINE

by Arlan Levitan  
MACE President 1981-82

I still remember the first MACE meeting I attended. It was held at the Computer Connection in Farmington. The featured speaker waxed poetic over the abilities of the Atari Stock Charting program and Graph-It. Most of the forty or so people in attendance were amazed to find that the fledgling club actually had a program library with three tapes and five disks full of real live public domain programs for their Ataris. Even more amazing was the fact most of the programs that one could get to load would run.

I attended the next MACE board meeting and volunteered for the vice-presidency. Since no one else wanted the job I was elected to the post by the board by a 3 to 2 margin. As vice president it behooved me to keep track of such weighty matters as how many burgers were consumed at the Omega during board meetings (often more difficult to figure than whatever happened to Ataritel). The mercurial but dynamic Jonathan Earl and an incredibly laid

back Ashby Woolf provided better Wednesday evening entertainment than a good episode of Riptide. Mark Davids and Judy Braun brought the educators' perspective, while Rodney Graham and Gary Luzier were dedicated electronic tinkers, constantly asking for more napkins to draw schematics on.

Gosh, those were the good ol' days...410 recorders that would refuse to work unless you stared at them intently during the entire twenty minutes it took to load a Scott Adams Adventure. 810 disk drives that would write but not read on even days of the month and vice versa on the odd.

In many ways, the family of MACE members has succeeded far more than Atari. MACE Aces Tom Geise, Craig Chamberlain and Sheldon Leemon made contributions to Atari computing that were richly deserving of special recognition. Tom's AMIS bulletin board program is the standard Atari BBS, with almost five hundred boards currently in operation. Sheldon's Instedit program earned him an Atari Star Award and introduced thousands of neophytes to the peculiar power of Atari Graphics. The multitasking Craig brought advanced graphics, music and programming techniques to the everyday user.

More important than any computer or program are the friends that I met via MACE: Marshall Dubin, Tom MacLaney, Robin Ward, Fred Parr, Chet Gonterman, Sam Findley, Gary LaPointe, Jerry Aamodt, Paul Wheeler, Mike Lechkun, the Hawkins family, Todd Meitzner, and a couple hundred more who will surely forgive me for not singling them out by name.

We've lived through GTIA and Newell Fastchips, Data Separator and Grass Valley boards, Revision B and C Operating Systems and BASIC, and shortages of 850 interfaces that were responsible for many "grey market" equipment dealers' wet dreams.

So here it is, five years after the introduction of our old friend. An 800XL and 1050 disk drive can be had for less than \$250 with careful shopping. I paid a cool thirteen hundred dollars for an Atari 800 with 32K of memory and a 410 program recorder. Do I feel cheated? You gotta be kidding...

The graphics and sound of the ubiquitous IBM PC and its clones remain lame in comparison. The Apple IIE, C, X, Y and Z and the Macintosh remain overpriced. Sure, I'll readily admit that I use both my IBM and Mac a lot, but neither has consistently piqued my interest and imagination as often as my trusty ol' 800. On the other hand, Atari and Commodore owners seem to have reached an uneasy truce, perhaps like silicon Rocky Balboas and Apollo Creeds, both former adversaries bearing grudging admiration for the other's guts and staying power.

So the next battle looms at hand. Underdogs Amiga and Jackintosh in training for their first clash against fat dumb and happy Big Mac and Blue.

I hope the contenders knock the current champs on their electronic butts.

My friends do too.

## SHIP-TO-SHORE

from the MACE Yacht

by Marshall Dubin  
MACE President 1982-83

When I assumed the presidency of MACE, I had been already doing the newsletter. We had just recently started meeting in Southfield, and were rapidly growing. One of my first impressions (other than the relief that I didn't have to do the newsletter anymore) was the sheer size of our new meeting facilities. I remember that only a few weeks before we were stuffed into the meeting room in Berkley. It seems like every time we got a new and larger facility we would be stuffed out of it in very short order. This time, I figured we wouldn't have to do 'sardine simulations', to quote Arlan. About the time I was beginning to feel like we could handle everyone in the new facility, we started a new growth spurt. From the approximately 500 members we had when the club started meeting in Southfield, we began to increase by 10-15 new members each month. Some months we would pick up as many as 30 new members. Not only from the Detroit area, mind you, but we had some



dedicated members driving in all the way from Sarnia, Windsor and Toledo.

On the national front we were growing as well. We were picking up members from as far away as Germany and Australia. We had almost every state of the union covered. We exchanged newsletters with Atari groups all over the world. MACE was certainly on top. At one time we represented almost 2000 Atari users across the nation!

Although this fantastic growth period was mind boggling, there were those of us who worried how we could keep it all coordinated. You have to remember that we were all hobbyists, not Atari staffers. We had jobs and families, and although we were dedicated Atarists, somewhere in between the newsletter and the membership committees and an occasional game of Wizard of Wor, we had to spend a nominal amount of time with the family. From the few familiar faces I had gotten to know from the early beginnings, I now stood in front of an audience second in size to a small rock concert.

It makes me glad to know that we were able to help out and provide some kind of enjoyable experience for so many Atari owners. We all had the same thing in common: we wanted to get the maximum benefit out of our computers. We all wanted and at times badly needed support. I have to say that in my opinion, MACE provided better customer support than Atari ever could. We had progressive, innovative programs, a gigantic disk library, and a BBS network that to this day is impressive. I am glad that MACE is still out there. It makes me happy to see a dedicated bunch of people giving their time to make MACE one of the best user groups anywhere. Sometimes I wonder if Atari ever realized what a influential group we were. Sometimes I feel let down by Atari and the many songs and dances they gave us. Well I'm no talent agent, but I do know that, at least in Michigan, MACE helped put them on the map and keep them there for a while. I am also sure that long after Atari is gone, MACE will live on, at least in spirit anyway. I give my heartfelt wishes to the hundreds of dedicated MACE members who made it all happen. I guess it was worth it after all.

## ONE MORE PRESIDENTIAL RAMBLE

by Mike Lechkun  
MACE President 1983-'84

This article's intent is to tell you about what it was like to run the largest regularly meeting Atari User Group on the continent. It is not meant to talk you out of ever running for President or some office. I hope it doesn't accomplish that.

Preparation is an important part of running the office, and boy, was I leveled by the amount of work required to do the job right. My biggest hinderance was that God only made 24 hours in a day. The biggest help I had was in one Thomas Sturza, Program Coordinator and erstwhile right-hand man. If it weren't for Tom, there were many times I would have resigned. Ahh! There's a key word to my administration.

Being a MACE officer is a big job. It was too big for a number of people who left the executive board for a variety of reasons. I think I ran almost every office at one time or another while looking for a replacement or stand-in. While this went on, my everyday life was rearranged around MACE. Sort of like two full time jobs at once.

And then there was TARICON.

Talk about foolish campaign promises! Actually, the idea of a user-supported convention wasn't that bad. In an effort to get lower rent for the meeting room, and to make the City of Southfield look high-techie and progressive, previous administrations agreed to holding a computer show of some sort. In 1983, an attempt was made that fell short. As MACE president, I had to decide whether we would go back on our word with Southfield, or try again. I envisioned MACE as a leader among user groups, not a follower, so to back out of the show was not the way to go. And, as they say, the rest is history.

Personal goals? I felt the need to bring MACE members closer together. I wanted to try some unrelated computer activities, such as a

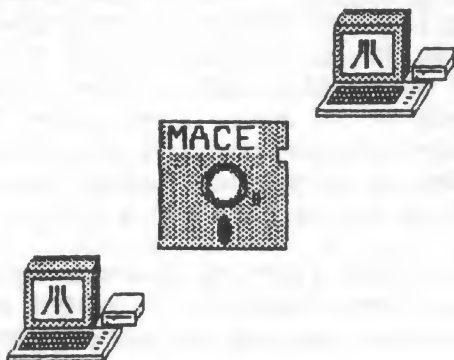
picnic or group attendance at a Tigers game. Oh well, never got around to that one. My idea of "Road Trips" met with resounding indifference as well. I found that not everyone was as gung-ho for Atari as I was.

Personal accomplishments? I met most of you good folks and made many good friends. I was able to meet, work with, and talk to leaders in the Atari community, such as Bill Wilkinson and Fernando Herrera, among others. I also gained a knowledge of my computer that no user's manual will ever provide. These accomplishments have caused me to remain with MACE, serving as the MACE EAST BBS sysop (the number to call is 978-1685!), and helping Ann in the mailing of the Journals every month.

Frustrations? Atari's foul-up by not showing for their exclusive show. Watching membership numbers slip (along with Atari sales and profit figures). So much for the "cult computer of the Eighties".

Future views? I would like to see someone big like GM, or Bell Telephone (hint!) with an extra office someplace donate it to MACE. I think we need a permanent address bigger than a 1.5 cubic foot post office box. And a company like that wouldn't mind the tax break, either! Along with that, we would need some permanent staff types to wo/man the office. One full time or two part time PAID office workers, along with a volunteer to help out would truly make MACE the most important peripheral you'd ever want for your Atari.

All in all, being your President was a rewarding experience. I enjoy talking to you all at the meetings and will offer advice to anyone who would consider running at the next election.



## THE GOOD OLD DAYS?

You think you have problems because AtariWriter doesn't fully support your printer and you have to type in a lot of control codes to access the features you want to use? Back in the "good old days", Atari users didn't even have the Atari Word Processor. Here is a reprint from the MACE Newsletter, Volume 1, Number 3. (I don't know why it's called "The \$6.00 Editor" - perhaps because the original MACE dues were \$6?)

### THE \$6.00 EDITOR

by M. R. Dunn  
Editor, A.C.E. News

The Atari has a built in word processor using the DOS COPY command as an editor. You begin by calling the DOS menu then using the COPY command. The screen shows COPY--FROM, TO?: you answer E:, filename and start your typing. Each time you press RETURN the linefeed of the printer will be activated and a new line started. For an 80 character line you must use two lines per printed line. After you have finished your typing, save to the disk by pressing CTRL-3 and the file will be loaded on the disk. Then you can reload to the screen editor by using COPY from filename to E:, and you can do your corrections. If the article is longer than the screen can hold, you can stop scrolling with a BREAK key and change the COPY statement as above from filename, E: to E:, filename using RETURN to re-enter each line, and make corrections after erasing the original letters so they won't be duplicated. It may be necessary to insert blank lines on the screen so the menu items won't erase your file. The files may be all appended by using the /A after the main filename thereby making a file of all the pages ready for printing.

All of the usual functions of a word processing system can be used, including the special features of the Atari 825 printer, by inserting the proper control characters in your text. EXPERIMENT!!!

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M.A.C.E. (5)

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## CASSETTE CORNER



by Mike Landis

Well, it's almost summer and here we go with our birthday party. Has it really been that many years already? I guess! It just seems like yesterday.

To kick off this historic event, we at the cassette library have come up with a special Birthday Cassette. Not only is it your very favorite program, but ours also! How can we tell what your favorite program is? We can't, so we decided to let you pick three programs from any ONE disk.

Let me tell you how this works: you go over to the disk boards and pick out three programs from one of the disks. We then transfer them over to cassette (they must be cassette compatible) for you. You receive one tape, marked as a Birthday Special Edition. (Note: these could be collectors' items in a couple of hundred years!)

Now, how much does it cost? Need you ask? Well, I'll tell you any way! The cost of this special item is ONLY 4.00. Now think about it, only 4.00! But that's not the best part; the best part is: when you get TWO tapes (six programs from two different disks), you can get these for ONLY 6.00.

Now go look at the disks and see how many disks you didn't get because they only had 3 programs that you wanted! Figure the cost of two disks and you have a great deal here. I know there is going to be a great demand, so I am allowing the Birthday Special to run for 3 months. Give me your order at the meeting and you will receive your tape at the next meeting.

What makes these tapes any different from the past ones? That's a good question! These tapes have the programs on both sides, which means if one side has a problem, just change sides - no more hassles. NOW, think! Is there any reason why you shouldn't try these special tapes? Of course there isn't. Our Cassette staff will be awaiting your choices.

## MEMBERSHIP NEWS

by Paul Wheeler  
Membership Chairman

This being our fifth anniversary of MACE, I thought I would look up some of the old Journals and find out a few facts on the group. The first issue I could find was from March '81 and contained an article which stated "Your group has reached new levels: 39 dues paid members and over 100 interested people". The May issue listed 54 members.

The MACE charter was drawn up and voted upon at one of the early '81 meetings. It first appeared in the September newsletter. It was at this meeting that the first annual election of officers took place, relieving some of the first officers who had signed on at the beginning of the year for a few months.

Initial newsletters were loose pages stapled together until the January '82 issue (32 pages), which appeared in magazine form. The August '81 issue was the first to be bulk mailed, as the membership went over the 200 mark needed for this type of mailing. At that time, the disk library had a total of nine titles and the tape library had five.

It wasn't until January of '83 that the newsletter (going glossy) was renamed The MACE Journal. Our disk library is now into its fourth catalog with close to 100 disks.

As you can see from all this, we certainly have come a long way, baby..., since those early days when the pioneers of our group had to search around the various computer stores, schools, etc. to find a place to hold the meetings. We can be proud of the group, the meeting place, our Journals, our officers and most of all the membership as a whole.

It will be very interesting to see where the next five years take us, but remember, it's up to each and every one of us to contributing to MACE's growth.

By the way...

HAPPY BIRTHDAY MACE

## MACE PROPRIETARY DISKS

In addition to close to 100 disks full of public domain software, the MACE Disk Library contains several "Proprietary Disks", whose authors have given MACE permission to sell their software. These disks include documentation and sell for \$6.00 each. They are not available by mail. In honor of MACE's birthday, several members "volunteered" to review these disks so that you could learn a little more about some of the high quality programs available from MACE. I would like to thank these reviewers, who overcame lost documentation, an overheated computer and a disk with only DOS on it to meet the deadline.

### REVISED POKEY PLAYER

by Craig Chamberlain  
& Harry Bratt



Reviewed by Leo Le Bron  
Atarimusic SIG

How often have you been asked, "What can you do with your computer other than play games?" Well, I have an answer for them - make and play music! The Atari computer has great sound capability. It goes far beyond zapping in Star-Raiders or blasting in Missile Command.

The Atari uses the POKEY chip to produce a synthetic waveform which can result in numerous instrumental tones. The Pokey Player disk contains tunes from the classical variety to contemporary hits. This BASIC program has the advantage of being compact yet able to create sounds ranging from pure tones to percussion. The music one writes can be merged into BASIC programs.

After reading a rather brief but technical explanation on music theory in the documentation one should be ready to pick up a favorite piece of sheet music and transform it into a song the computer can play. I must say that if you only want to listen the only requirements are an Atari computer and disk

drive (I used a 800 and an 810 drive). Writing music is another matter. If you already understand music theory you are far ahead of most people, but don't let that keep you from reading the documentation and attempting to become today's Bach/Beatle!

Pokey Player will handle up to three "voices" of music, as long as all the parts start and end at the same time. Everything should be synchronized, so you have to remember to fill in with rests if one voice falls silent. The first two voices cover five and one-half octaves and the third all eight octaves.

By using other files on the disk one can write each of the voices, then check for errors using the Pokey Player Compiler. When the results are satisfying, the three voices can be merged into a single file - a song.

My only objections are the documentation's heavy concentration on music theory; although it is not necessary for playing music, it is needed for writing. Also, despite all we are told about the envelope's importance, all tunes sound to me as though they are played on a harpsicord/organ (except the drum tunes).

However, I still maintain it is a valuable piece of software. The documentation claims that Pokey Player was written to put the POKEY chip through its paces. It does a fine job for that purpose. The Editor routine on the disk is written by Harry Bratt and the Merge and Player were thoughtfully designed by Craig Chamberlain. If you just want to show off that computer of yours or write some tunes, this program is for you.

### FAST FINGERS

by Craig Chamberlain

Reviewed by Michael Schiffer

Have you ever wanted to skip some repetitive task which you had to go through each time you booted a given disk or tape? Would you like to have the computer automatically RUN your basic or machine language program, and even execute commands? If so, Fast Fingers is the program you want. FF works by fooling the

computer into thinking someone is typing at the keyboard (including keyclick) when in fact the input comes from disk or tape.

For example, the program can type RUN "D:AMODEM", then send, say, AT50=0 to the modem. Anything that can be done with the keyboard (excluding the console keys and a few keys which have no ATASCII equivalent) can be done with FF.

One nice feature for disk users is the ability to append the file created by FF to another AUTORUN.SYS file (such as the 850 interface RS-232C handler). This makes it possible to autorun a BASIC terminal program while retaining the handler necessary for it to work. It can also be used with public domain word processors to enter a few set-up commands before you start to type.

The FF boot file maker has a number of options. You can type your messages from the keyboard, or load them from tape, disk or other peripheral. It then produces a screen with READY in the upper left, but the program is still running; it is recording every keystroke you make, rather than executing it. It will record your mistakes, and your act of backspacing over them, so backspace doesn't truly correct mistakes as it would in a word processing program. CTRL-3 ends this mode. You then type the device on which to store it (C: or D:), the location of the loading address and patch address, or the area where the keystroke data will be stored (default values are provided). It asks for a speed from 1 to 9, which range from one key every 60th of a second to one every four seconds. It will then save the program as an AUTORUN.SYS file or an autoboot cassette file.

The documentation for Fast Fingers is very complete. While simple enough for beginners, it includes information on the way the program works sufficient for the advanced user. Certainly, FF is well worth the \$6.00 a MACE proprietary disk costs. It makes possible all of the autoboot programs you've ever seen except full assembly language programs, which can just be called up by FF in any case. Indeed, you may be fooled into thinking a ghost is typing into your computer, but don't worry, it's only Fast Fingers.

## INSTEDIT

by Sheldon Leemon



Reviewed by Russell Crum



Instedit is almost "the" classic character editor program to many Atari users. It was written by MACE's own Sheldon Leemon in 1981. It is available in the MACE disk library as well as nationally as an APX program (ANTIC magazine is currently marketing it for \$19.95).

Instedit is a program that is very easy to use. Even if it is, just why would one want to use a character editor program? What's wrong with the Atari character set anyway? Those were exactly my questions a few months ago. There are actually several reasons you might want to use a character set editor.

First, the regular Atari character set is rather "sterile". Wouldn't it be nice to have something a little different to do some fancy printing with? Also, maybe you have a special application where you need a character that is unavailable in the standard character set (e.g. special math symbols).

A second good reason to redefine the character set might be to create special images for screen display in a program you are writing. A particular letter, when printed to the screen doesn't have to look like that letter, does it? Maybe you need something that looks like a little bug. Just select some character that won't be used otherwise and redefine it to look like your little bug!

Sheldon Leemon furnishes two very nice examples of these special characters on the Instedit disk. One is a simple game (with bug-like characters) and another is a running horse. Those of you who were at the March MACE meeting saw a demo of the program as well as the running horse demonstration. It is an amazing feat to define characters so that when put together they actually look like a horse, let alone one that is running!

When the program is loaded, you are presented with a screen display that has five main areas. There is a main menu, a submenu of editing



commands, an editing area, and two areas that display characters. One of these areas displays the entire character set being worked on. The fifth screen area displays the character being edited in ANTIC modes 3-7 (mode 6 is BASIC's graphic 1 and mode 7 is graphic 2).

To edit a character, select the EDIT main command. You are prompted to select a character, which you do by executing the keypress that generates that character. The selected character appears in enlarged form on the 8 X 8 grid editing area. It also appears in GRAPHICS 0 in the main menu screen as well as in the various ANTIC modes. At the top of the main menu you will see the ATASCII value of the character and its appearance as a normal Atari character. I found this feature useful after I had changed some characters to very different shapes. You still need to know what the character used to be in order to use it!

The editing submenu provides commands to: reset the character to the normal Atari character, blank the space to start from scratch, copy another character into the edit position, reverse foreground and background of the character, do a mirror image, rotate the character in 90 degree increments, and shift the character in all four cursor key directions. How's that for some real possibilities? Pixel by pixel editing is done by using a joystick to move a cursor in the editing screen. Pressing the fire button toggles the pixel on or off. It's that simple!

Other main menu choices are to load a character set, save the set being worked on, and save the set so that it is useable in another program. It would be a shame not to be able to use those brilliant creations, wouldn't it? Well, good old Sheldon Leemon not only allows you to save a character set so that it can be used, he gives you three choices! It can be saved so that a subroutine is created that will integrate your character set into a BASIC program. You may elect to save the set as DATA statements for use in a BASIC program (good if only a few characters have been changed). The set may also be saved as .BYTE data statements for use with assembly programs.

A last feature of the program allows "trying out" the characters by typing them in any order you want. This may be done in GRAPHICS 0, 1 or 2 or ANTIC modes 3, 4 or 5. You may switch back and forth between this mode and the editor to help put the fine touches on a character.

The documentation is quite clear on using the program. There are also some nice applications notes to assist you in using the program as well as a take apart of the program, which is mostly in BASIC.

The disk contains, in addition to Instedit, six character sets (including the two demos mentioned above), a demo comparing GRAPHICS 0 and ANTIC mode 3, and a demo comparing ANTIC modes 4 and 5.

Criticisms? The only one I really have is that the program assumes a single disk drive, although after a quick glance at the pertinent program lines, it doesn't appear that this should be difficult to change if anyone really wanted to. I did find that some special shapes seemed slightly easier to distinguish when I used CREATE-A-FONT (ANALOG Computing, Feb. 1984). I'm not sure why that was and maybe I was just grasping at something to criticize.

Can you print with a redesigned character set on your printer? YES! But, you do need a special program (someone asked Sheldon this at the MACE meeting). The character set we are dealing with here is an 8 X 8 dot matrix, which the Atari uses in GRAPHICS 0. Most printers use a 5 X 7 or 7 X 9 type of matrix. You can use your special fonts to print a text file by using a program like CUSTOM PRINT (ANTIC magazine, March 1985). I tried it and it works. It will not work with the SCRIPT demo set on Sheldon's disk though since that set is designed to be used with ANTIC mode 3 which uses an 8 X 10 matrix. If you want to design a character set for printer download, look at FONT MAKER in the March issue of ANTIC.

Would you like Instedit? I think so, especially if you aren't into programming and need a special character set. It gives you a chance to be creative and have some fun doing it!

# THE MACE TERMINAL PROGRAM

Version 3.5  
by Tom Giese

Reviewed by Tom Sturza

"This program will turn your ATARI COMPUTER into a smart terminal, allowing you to contact other computers over the phone lines. You will then be able to transfer programs and other files, back and forth, saving them on disk, cassette or dumping them out on your printer -- a great saving of time and money. If you have an auto-answer modem, this program could provide you with a message logging system, with each message stored in memory with no need of supervision."

The above is the opening paragraph found in the documentation which accompanies Version 3.5 of the MACE Terminal program. I have to agree that this program does everything mentioned above and more! The documentation is very well done, as is the program itself. Because it is written in machine language, it is very, very fast. The program supports 16 different baud rates, including the more popular 300, 1200, 2400 and 9600.

If all you wish to do is access local Bulletin Board Systems (BBSs), this program will definitely do the job. It is menu driven and, for the most part, quite easy to use. It even boots up in ATARI ASCII mode, which is the mode that the majority of our local Atari BBS's use. The documentation indicates that it will run on all ATARI computers with an Atari 850 interface unit. For uploading and downloading, it has two different protocols, one of which is Ward Christiansen's XMODEM protocol.

I used MACE Terminal when I was Program Coordinator to upload the general meeting agenda to local BBS message bases. This allowed me to key the agenda on my word processor and then upload it using the Smart Send mode. In this way, everyone saw the same thing on each BBS. It also saved time and money (I'm not exactly the fastest typist in the world!).

Want to access a non-ATARI computer system? Well, that's where this telecommunications program really shines! You can change items on this program that just can't be done with others. You can change the parity and whether or not you want the program to do Translation on the outgoing and/or incoming data. Talking to CompuServe or a mainframe computer works just fine once you configure the program.

I don't want everyone to think that I believe that MACE Terminal is the greatest thing since 1200 baud, even though it is a very powerful and well written program. I feel that a few cautions are in order. First, the program can use up to 10 input/output buffers. It does not save data to the disk or cassette unit as it is received, but stores the data in a buffer and you must remember to save the buffer after the download is complete. This is great if you are concerned about your phone bill. Download the program you want, then LOGOFF and on your own time save the program to your storage device. If the program you are receiving is larger than one buffer, you will need to receive it into multiple buffers and combine them all when you are done. The new user may find such a feat difficult.

Second, since the program starts up in ATARI ASCII, you must change the program parameters in order to talk with a non-ATARI computer. Again, the new user could easily get confused.

And last, but not least, remember that you must use an Atari 850 interface unit with this program.

I think you will be very pleased with the speed of execution and the excellent documentation of the MACE Terminal program. Need to access the mainframe at work? Want to speed up your execution time while paying to use CompuServe? Well then, MACE Terminal is the program you'll probably want to use!

(It is my opinion that a new user may not want to choose this program as a first telecommunications program. A version of the BASIC program Amodem would probably be a better starting point (see MACE disk librarian for a copy).)

## SCOPY

by Craig Chamberlain

Reviewed by Burt Gregory

SCOPY is a disk copying utility for making archive copies of disks. SCOPY will copy an entire disk in only two passes. For those of you who carry a cutlass and desire to copy protected software read no further! SCOPY will not copy protected software. For those of you who drive a Cutlass and desire to copy your own software please read on.

SCOPY is menu driven with several optional parameter selections available to the user. Default values are provided which will cover most situations so that the utility can be used virtually without user intervention. Simply boot up SCOPY and insert the source disk so that the required information can be extracted. After the information is read from the source disk insert the destination (blank) disk and a copy will be produced.

This utility offers the option of making multiple copies, reading and writing selected sectors, or writing sectors to an alternate location as compared to the original source disk. SCOPY will also format unformatted disks and copy blank sectors if desired.

The documentation is excellent and while seventeen pages may seem intimidating, the text devoted to the operation of SCOPY takes up only a portion. The remainder is devoted to: error codes, technical information, hexadecimal conversion, and general definitions *i.e.*, disk drive, sector, density, *etc.* In short, the documentation provides something of a mini-seminar on certain aspects of the microcomputer environment.

The only complaint I have concerns the use of hexadecimal values to identify sectors being selected and displayed as they are read and written. The author feels that anyone who would be using such information would be familiar with hexadecimal notation, and in any event, conversion information is included in the documentation for the unfamiliar. While this may be true, I am still of the opinion that the use of the normal base 10 numbering

system would be more generally useful than hexadecimal.

However, this is a minor issue and all in all SCOPY is a typical high quality Craig Chamberlain product both in terms of programming and documentation. And if that isn't enough; remember, it's also priced right.



## GOLFER'S DATABASE

by Patrick J. McCabe

Reviewed by Scott Garland

I'll be perfectly frank: since I lost the documentation for "Golfer's Database", I used the old "follow-your-nose" approach to review it. I'll just give you an idea about what "Golfer's Database" does and my appraisal of it; the documentation is usually available for perusal at the disk library table if you're interested.

There are two parts to "Golfer's Database": the graphing module and the "player's logbook". The logbook is the actual database program, which accepts two sorts of database files: records of the specific games for a particular player (there can be more than one on each disk), and a catalogue of golf courses. Sample files are included for both types of database. The fields, or characteristics, of each data type are very extensive; you can even record how much money you won or lost at each outing, and a note about problems, such as "left foot stiff". As a matter of fact, although they help spot trends in the user's play, the options may be too extensive for the novice player who does not need to know his handicap or how many times he putts under stormy conditions. The course descriptions are similarly detailed, but there is another simpler form included for those who prefer it. As would be expected, the graphing module does exactly that: it presents the information from a player's file graphically. Incidentally,



any information, either a record or graph, can be viewed either on the screen or on a printer.

"Golfer's Database" seems to be well programmed. Execution is respectably fast for a BASIC program, although not blindingly so, and Mr. McCabe makes nice use of character graphics, in the form of a player or a hole on a course, to spice up his menus and make the program more interesting. The only "flaw" that I can see with "Golfer's Database" is that it may be too advanced for the novice golfer, although not for the novice computer user. For the serious golfer (i.e., one who bets money on his, or anybody else's games) this program will probably help in the organization and analysis of past performances. Currently I have no need to keep records of my past golfing performances; however, I will be making an effort to do so for the next month or so. Maybe then I can tell you how much of a help it has been. But until then, you should pick up a copy anyhow, whether or not you are a serious golfer! the beauty of MACE's proprietary software is that you get quality for a low price. For the price of one outing at a public course, you can have something which just may add to your enjoyment of golf.

## A FALLEN FRIEND

by Jim Samples  
SYSOP, V.O.I.C.E. BBS  
(313) 532-0410

For those of you who missed the MACE meeting, it can be summed up in two words: SWEET and SOUR.

The SWEET is the fact that MACE showed off the new 130 XE, and everything was going as happily and as smoothly as all of the MACE meetings had been doing in the past.

The SOUR came about at the closing of the meeting when our President was about to demo a game that belonged to a fellow friend,- (as members of MACE we are all friends) - it was sadly discovered that one of our so called 'friends' had turned into a thief.

From my point of view, it would seem as though pirating was simply not enough for this so-called 'friend' of ours, but can anyone explain to me WHY someone steals from a friend?

To the THIEF:

How unfortunate for you that you had to resort to this with people who thought of you as a friend. It is also too bad that you didn't think about what you were about to do. You didn't steal from just one individual; you stole from ALL of us.

We trusted you and you stole  
that from us also !!

I would imagine that by now you have bragged about your cunning abilities to someone that you know and trust as a friend, but if you really think about it, has that 'friend' ever really trusted you for one second?

So you see, someone DOES know who you are, and you will never again be able to look at that person without thinking, 'He knows'!.

Do yourself a favor and restore our friendship by returning the item to the MACE PO Box. The address is in your MACE Journal. Don't sign it, just send it. It might cost you a buck, but you'll find that a buck is a very cheap price to pay for friendship and peace of mind...

## TOUCH Innovision

Reviewed by Kirk Revitzer

Touch, the adult party game by Innovision, is really unique! Calling it an adult game is mild. I think maybe a "very liberal, open minded, and willing to share" adult game is more like it.

To play this game you will need an Atari with disk drive, medium to large room, Visqueen, Wesson Oil, and mixed company or a good imagination!

Once booted, the game will ask you to input the names of the players. It requires male and female but they do not have to be an even

match. Once you have started, person X will be prompted to touch a part of person Y and then you are asked two questions. One, would person Y let you and two, did you actually do it? Saying no will end the game for that player. As long as there are still different sexes left the program will continue. By level 6 we are up to massaging and in level 10 we can no longer discuss it here.

So, if you're looking for a little rainy night fun, or want to have your first orgy and don't know where to start, this could be the disk for you!

## MODEMS

by Kirk Revitzer

What features should a modem have? That's an interesting question; let's talk about it!

Way back in those thrilling days of yesteryear Bell Telephone invented the modem: the Bell 103A for 300 bps and the Bell 212A for 1200 bps. Seeing as how Bell invented the telephone network as well as the modem they kind of set the industry standard for data transmission. So, the first thing to look for in a modem's specifications is Bell compatibility. For example, the Hayes and Atari modems are both "Bell compatible" and will function well with any Bell compatible modem.

Of course, the next big thing on the list is being "Hayes compatible." Well, the only modem that is truly Hayes compatible is another Hayes. The Hayes modem sets another "standard" of its own with the use of its commands. Other modems, such as the Signalman Mark XII, use the same AT commands as a Hayes and are thus somewhat Hayes compatible. However, there are always the little things to watch for! While a Mark XII will recognize the commands, there are differences in the hardware and modem cable itself. For example, say you are logged onto a BBS and wish to hang up. Ok, you type the letter [G] and the BBS says goodbye and off you go (maybe). The BBS will then tell the Hayes, via the DTR pin, to drop carrier. Guess what? The "Hayes compatible" Signalman

doesn't support DTR. Logging off could be tricky.

So what's the difference between 300 and 1200 bps (bits per second)? Well, in a nutshell, 1200 is a heck of a lot faster. Is it worth the extra cost? Yes. It will reduce your connect time by 75% and save a lot on phone bills.

The most important item to consider when you buy a modem is what you want to do with it! If you have hopes or plans of someday running a BBS, buy a Hayes. It will be much easier in the long run. If you're just looking for a good modem to call around with then the Atari, Signalman, etc. might be right for you.

Got any questions? Just mail 'em in, leave 'em on a MACE BBS, or use the suggestion box at the meeting! Questions received on time will appear, with answers, in next month's Communications Q&A column. By the way, I just now made that up, so don't look for this month's column!!

## SIG NOTES

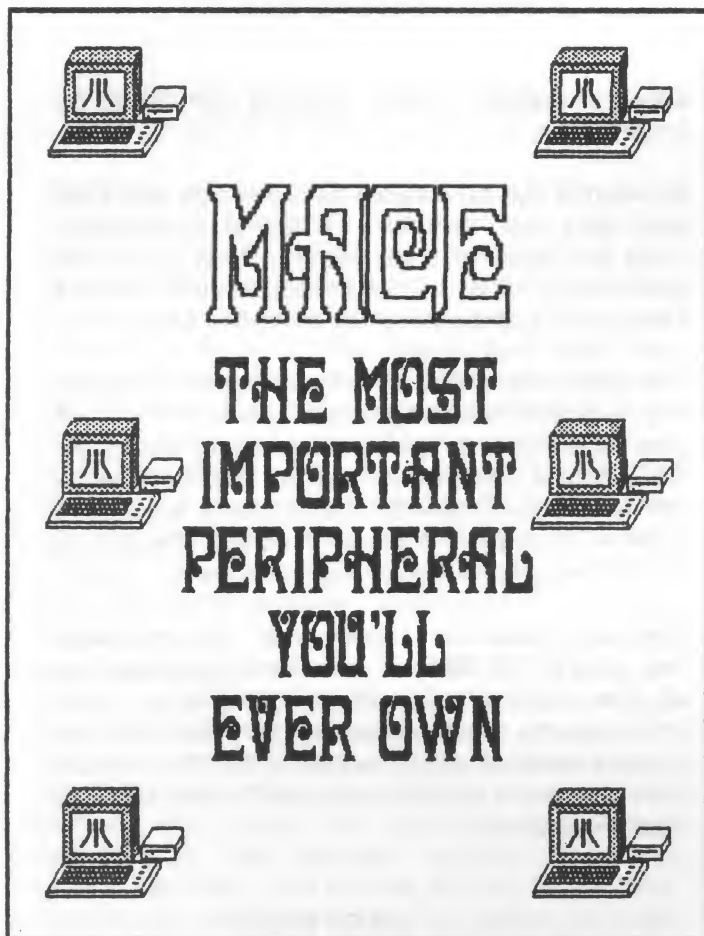
Dear me, MACE's SIGs are dropping like Atari's promises. Last month saw the demise of the short-lived East Side SIG, and this month I was saddened to learn that the Assembler SIG has folded due to lack of interest. Lack of interest, with all those budding young machine language programmers out there? Hard to believe, isn't it? Maybe some of you who are interested in learning assembly language could get together and revive it.

Still hanging there, as far as I know, are the following SIGs:

SIG-ED: Contact Mark Kennedy evenings at (313) 465-5849.

Atarimusic SIG: Contact Mike Lechkun at (313) 978-8432 or call MACE EAST BBS at (313) 978-1685.

FORTH Interest Group: Contact Tom Chrapkiewicz at (313) 562-8506 or 845-4570 x60.



**BRUCE LEE**  
Datasoft, Inc.

Reviewed by Steve Caldwell

BRUCE LEE is a multi-level, puzzle solving action game based on the martial arts expert. It requires 32K of memory, a disk drive and a joystick. BRUCE LEE sells for about twenty-one dollars at computer and discount stores.

After the game is loaded you have two options: press the OPTION key for 1 or 2 players and the SELECT key for computer or opponent. The START key will begin the game.

Bruce must move through a series of interconnecting chambers beneath a temple deep in the Himalayas. He must jump up and collect a series of hanging lamp-like objects, while avoiding a constant barrage of kicks, punches and slashes from a green Sumo wrestler and a sword-bearing Ninja.

Once all the lamps are taken from a level, a trapdoor or hidden gateway opens and Bruce descends down to the next level (there is a total of 20) with even more dangerous obstacles. Several chambers are so difficult that the Ninja and Sumo don't even try to follow.

BRUCE LEE is a game that would appeal to all types of game players. It also holds the player's interest longer than the average game, because of the different levels. The graphics and sound of BRUCE LEE are excellent. I would rate this game a 9 on a scale of 1 to 10.

**BBS  
TEN COMMANDMENTS**  
Version 1.1

[Submitted by Tim Linehan via the Edmonton RCPM BBS, then captured from the East Area RBBS (IBM), Mt. Clemens MI by the Sysop of MACE EAST. -Ed.]

1. Thou shalt not overstay thy welcome.
2. Thou shalt not use offensive language.
3. Thou shalt not use this BBS system to engage in or encourage acts of commercial software piracy.
4. Thou shalt not use this system to advertise products not related to personal computing.
5. Thou shalt not have more than one ad online at a time.
6. Thou shalt not use this system to advertise thy business, except by arrangement with the SYSOP.
7. Thou shalt not log on using silly names lest the SYSOP rise up and smite thee.
8. Thou shalt not clutter up the system with trivial messages which are not computer-related.
9. If thou art a new user, thou shalt make every effort to find out how the system works through its built in HELP functions before bothering thy beloved SYSOP.
10. Thou shalt contribute software as well as take it.

amen.



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## GREETINGS FROM YOUR EDITOR...

I have a few odds and ends this month, but first I'd like to thank everyone who sent in submissions for the Journal this month - especially those that were unsolicited. (You get fewer points if I have to back you up against the wall and coerce an article out of you, but you DO get points.) As an encouraging thought for all of the "beginners" out there, I'd like to point out that Gordon Totty, who reviewed Family Finances, describes himself as a "very recent new member"; this proves that you don't have to be an old-timer to produce high quality Journal material.

### Overheard in Sunnyvale:

"Mommy, mommy - I don't want to go to Europe!"

"Shut up and keep swimming, or you'll never see an Atari ST."

Well, at least not until much later than we expected. Uncle Jack has done it to us again, with an announcement that the first 520ST's off the line will come packed with their own little passports, Gucci luggage, and American Express cards. It seems that there is less competition Over There than Over Here, so Europe will get first crack at the new machines. Look for domestic versions in July (and I have this GREAT beachfront property in Florida for you...).

On to more serious matters, like suggestions from members. (I got another letter!)

Suggestion #1: A letters to the editor column. When I do get questions, I try to answer them in this column, but if you have a letter you would like to see printed, send it on in. I would love to get enough mail each month to be able to publish a letters column - or even an occasional letter.

Suggestion #2: A nominally priced want ads section. Is free nominal enough? Any MACE

member can place an "Unclassified" ad by calling me before the Journal goes to the printer (usually two weekends before the meeting). There is no charge, but you must be a member, and the ads are for non-commercial purposes only. Commercial ads can be purchased for a reasonable cost, ranging from \$10 for an eighth-page (business card size) to \$50 for a full page.

Suggestion #3: A question and answer column for people too shy to speak up at the meetings. I have had a couple people express interest in writing such a column, but first we need questions! If you have a question, write to me or leave a note in the Suggestion Box at a meeting and I will try to find someone to answer it in the next Journal.

Speaking of questions... Since taking over as Editor, I have gotten lots of phone calls from members seeking help for one thing or another. (I think this is true of most of the officers.) Part of the fun of this job is meeting and talking with other Atari owners, and helping when I can. HOWEVER - before you pick up the phone to call one of us, take a minute to ask yourself a couple of questions:

1. Is it 2 o'clock in the morning?

I haven't personally had calls at unreasonable hours, but I know of some who have.

2. Am I calling the right person?

I have been called because the caller couldn't reach the officer who really could have answered the question. I have been called because the caller "didn't want to bother" the person from whom he bought a piece of software which he couldn't make work. I have been called because the caller didn't know he should have called someone else. If you need to report a change of address for the Journal, please call Paul Wheeler, who as Membership Chairman does a bang-up job of keeping track of all the members and printing up the labels each month. If you haven't gotten your Journal in the mail (and you haven't let your membership expire), check with Mike Lechkun (Voice: 978-8432, MACE EAST BBS: 978-1685), because he has the thankless task of bundling them off to the Post Office each month. The

Journals are usually mailed out the Thursday following the meeting; allow a couple weeks after the meeting before you bug Mike, because bulk mail isn't the speediest in the world. If you determine that your Journal truly has gone to that great mailbox in the sky, give me a call and I will either bring you a copy at the next meeting or mail one to you.

Gee, this all sounds rather unfriendly, doesn't it? It's not that I don't want to talk with you, but why should we both waste our time if you would be better off calling someone else? Maybe I'd better give some examples of when you SHOULD call me. Call me to place "Unclassified" ads. Call me to arrange to upload submissions to the Journal. Call me if you have a question about something I've written and it just can't wait until the next meeting. (I only get mail via the PO box twice a month, so that's not a good way to get in touch with me quickly.) Call me to tell me how wonderful the Journal is these days... well, let's not get carried away. I guess you can figure out when you should call me and when you should call someone else. (When in doubt, call me anyway - what the heck.)

Some of you may be wondering if MACE slipped into a time warp, since the first meeting was in January of 1981 and here we are 4,416 years later celebrating our 5th birthday. It's just one of those things that sort of happened. The first birthday party, which should have been in January of 1982, somehow got pushed back until May of that year. This year's party is therefore the fourth party, but MACE has been around for more than four years, so we rounded up. According to Ashby Woolf, MACE's first president, planning for MACE actually started in the fall of 1980, so we're not all that far off. Think of it as an attempt to offset all those times that Atari has been late in releasing promised products, and sit back and enjoy the party!

One last thing - I still have a number of disks belonging to people who have sent in submissions to the Journal. I try to find you at the meetings, but not always with success. If you've given me a disk and want it back, let me know. You'll probably have better luck finding me than I will finding you. (And thanks again for the submissions!)

## FAMILY FINANCES

Atari



Reviewed by Gordon T. Totty



Family Finances is a two disk program from Atari by Jerry Falkenham. It was originally an APX program, and is described in the latest version as being based on "derivative program contents", whatever the heck that means. I bought it about eight months ago, mostly because it was cheap (\$19.95 at that time) and because I was interested in having some sort of home budget software. I had some misgivings, however, because I believed that all the family budgeting that needed doing in my household was the figuring I did on the back of the envelope my paycheck came in.

I was wrong.....

In case you read no further, let me state right now that if you can still find this program you should buy it. It is easily well worth the twenty bucks I spent, and I have seen it in one store for \$9.95!

I confess that I used to smirk at those people who wrote down every expenditure. Those sorry saps! Wasting all kinds of time tracking the fate of every penny that passed through their miserly, miserable fingers. Indeed! I have become, if not one of them, certainly a close relative of the breed. And I owe all of this to the Family Finances program... recording income and expense transactions with this software is like eating peanuts. For each I finish, I look forward to two more with pleasant anticipation.

Within reason, of course, within reasonable reason. Nobody is going to get a laugh at me by catching me writing down, "Free Press, 20 cents." But, in the privacy of my home, I do record entries such as, "Paid newsboy, \$8.50". And each month, I find that about \$50.00 has been spent without any trail being left, or recorded. No big deal. Even with this lack, my family now knows, better than we ever knew in the past, where the money comes from and what it is used on. We know why we don't save more, and we know where to cut if we want to. We are in control, but not feeling like we are



being overly controlled. And I am having all kinds of fun with my computer, "publishing" monthly reports on income and expense, budget and actual, each versus the other, month by month, total for the year, category by category, and more.

This all started last September, when I booted the program disk. It is very, very friendly. Believe me, I know! with me this is essential! Sample data are included on the program disks, making it very easy to understand the brief 24-page manual. Read the manual and step through the sample data together. Do this twice and you are all set to go with only minimal remaining confusion, if any. Then, you copy the disks, put the originals away in a safe place, and you are ready to begin to enter your own data.

With a single disk drive you can store 20 income entries and 100 expense entries per month. With two drives: 100 income entries and 220 expense entries per month. Either way, you are limited to one year per disk but after a year just get out the masters and make a new set for the next year.

I at first thought the program was slow. It is entirely menu driven, and you may have to step through four or more menus to get to the "page" or item that you want. But, if you are working carefully and thinking while you work at it, the program is not slow at all. Restful, maybe. Cozy. Friendly, even in its failure to make you feel rushed.

It has lots of built in protection for you. Inappropriate key strokes produce an audible signal, and are not accepted. Changes or deletions of previously entered data are carefully executed, with enough steps built in that you know you want to do it, before you do it all up. Changes in screens bring up new colors, another visual warning that you are moving along. And, heck I'm easily pleased; the color is entertaining, too.

One defect is that the program limits you to 13 expense categories. I'd like about 20, but have managed to do very nicely anyway. You are allowed to set these up with your own titles, e.g. Wine, Women, Song, Food, Rent, etc. To meet the limit, you can combine categories

of lesser importance as, in the preceding example, Food & Rent.

You are also allowed 20 income categories. If this is a problem for you, I would like to meet you; anybody with that many different sources of income must be a wealthy investor!

Anyway, between September and the end of the year, I entered over 700 transactions onto the disks. We reconstructed the year's "business", using check stubs, receipts, judgment, memory, etc. It was a very educational exercise. I permanently lost my license to smirk at others regarding expense tracking. I was becoming a true believer! This year, we are entering data at a rate of more than 100 transactions per month.

You don't need a printer to get benefit out of all this, but if you have one you can generate reports with a few keystrokes (formats are all established in the software). And no special "driver" interface is needed. (My Mannesmann Tally Spirit 80 sometimes thinks "AtariWriter" is unintelligible, always ignores "SynTrend" print instructions, but never fails to respond to the "Family Finances" program.) Output will, however, be limited to the leftmost 40 columns. Even this becomes a benefit if, like me, you use the right side of your output for notes. (Which can be hand written --- a quaint practice using a tool called a "pencil".)

I think you will enjoy this program, if you can still find it and buy it. At \$20 or less, it is a "steal". I now use it more than I use my beloved "Pac Man" cartridge. My wife thinks maybe I am growing up at last. Maybe I am, because I even wrote a "program review" for the M.A.C.E. Journal.

## GREETINGS TO OUR EDITOR

by B.J. Franczyk

Today I dug out my Journal to give an advertiser a call. As I leafed through it I couldn't help but appreciate the nice job that Ann is doing with the Journal. Her article, Greetings from Your Editor, (April Issue)

inspired me to take AtariWriter in hand and put into words the thoughts that crossed my mind as I perused the pages.

No one really knows the effort one puts forth to create a success unless, of course, they walk through it with them. Now, since I couldn't physically spend time with Ann I decided to ask her about her task of creating a newsletter each and every month.

Ann does all of the writing with AtariWriter, an Atari 800 and an Atari 825 printer. Besides the actual work of designing ads, picking up ads, writing and editing articles (not to mention digging around for the inspiration) there is the physical work of carting around the finished product. This, of course, is a simplistic description of the actual task. The point, however, is to tell Ann that her effort has not gone unnoticed.

What is most obvious is her responsibility to fill the pages and to produce a newsletter of decent size. I am sure when she took this job she didn't think she would have to do the majority of writing herself. Well folks, in all fairness, Ann shouldn't have to and it sure would be nice to surprise her occasionally with a submission or two from a new source. Keep this in mind and put on disk (or even paper) the ideas you can share.

The Journal represents MACE long after the meeting has been adjourned and it once again becomes a valuable source of information. There is no question that Ann has a talent for writing and that her subject matter is interesting. My only question is: Are we going to burn out this newsletter editor too, or are we going to cooperate, pitch in, and submit articles????? My vote is to lend a hand. How about you?

With that I will close, but keep in mind we do appreciate you, Ann, even if we have never said it.

Keep up the good work.

[Aw shucks - I feel a little embarrassed to print this, but I'm not about to turn down an unsolicited submission! Thanks, Barb. -Ed.]

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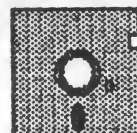
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## COMPUTER AMBUSH

### SSI

Reviewed by Tim Basham

We hear distant grenade bursts and then see clouds of smoke rise above the buildings as the Germans come. They are trying to destroy the barn. It's the barn we are assigned to hold at all cost. They thought we were in those buildings. Good thing we weren't! I see Cheng in the foreground loaded to the teeth with grenades and ready to blow those Nazi's all over the town. Dumke, being not too bright, runs out in the middle of the road and begins shooting. Before he can shoot twice a bullet catches him. I hear a scream and an SS Trooper comes out of the bushes nearby. He has plastic explosives tied to him and he's charging the barn! I've got just seconds to get him. He's diving for the window.....

Well, that's the kind of excitement you'll find in the new war game Computer Ambush, by SSI. It is the most detailed and realistic game I have ever played. The game takes place on a map of a town with buildings, hedges, rubble, and many other things. You can play with a friend or against the computer. The computer can be made to play the part of the rookies or the dreaded SS.

Two plastic coated maps and grease pens are included in the packaging. These help you to plot your attack against your opponent on the various terrains. The game lets you play out your scenarios on different parts of the map or make your own rules and use the entire map to play. Scenarios range in playing time from one to three hours (although I watched two beginners play an 8 hour game!).

Once you boot up the game and pick the scenario, the game will ask you which soldiers you want to use. You can use all ten or pick just one. You then pick out their location on the map and, if you want, pick their weapons. Even the names and characteristics of the soldiers can be changed and saved on disk. Each soldier is different. He has all kinds of abilities from strength to hand to hand combat. You may have all your squad's facts printed out, also.

After the squad is ready, you start out in the town. Commands are given in simple phrases. For instance, MR34R PF EF3032 PR FA0599, commands a soldier to run east for 4 spaces, prepare and explode a grenade at position 30,32, then get his rifle and shoot at anybody he sees for 9.9 seconds. You can order your men to run, walk, dodge, crawl, jump, sneak, look, fall, stand, wait, and fire. Many weapons may be prepared and used too. These include grenades, rifles, autorifles, machine guns, knives, bayonets, garottes, plastic explosives, and bare hands. When you are done entering all your moves for your men, the screen goes red and counts down. You see things like "Rifle fired" or "soldier screamed" on the screen. When it reaches zero, you are given the option of seeing a "movie" of the action. This will show a birds-eye view of the men (represented by the first letter of their names) doing what you asked and reacting to new dangers.

Now a few bad points. In the instructions it says this game has the sounds of explosions and rifle fire. I heard no sounds of any kind except for a few national anthems and a "tick" when it's counting down. Also, the game seems to drag on when both sides have a lot of men. The computer seems to get bogged down and it can take a few minutes to finish the turn. But this by no means makes the game unenjoyable.

This game is a masterpiece of programming and I would recommend that you take a look at it. The suggested retail price is 59.95 and I have seen it at various computer stores around the area for less than that.

Now if you'll excuse me, I have a town to liberate!

## SHOW AND TELL

For neatness in screen displays, POKE 752 with any non-zero value to turn off the cursor. POKEing with 0 will restore it.

To get rid of the sounds made during I/O, POKE 65,0. This is the noisy I/O flag.



# DOS DRIVER

by Jeffrey William Barber

DOS Driver is a BASIC utility which lets you manipulate disk files from BASIC. Run the program and it will read the DOS directory and display it on the TV screen in two columns. You will see, near the top of the screen: S-BUFF:nnn. This is the number of sectors that can be copied in one pass. Also UD SEC:nnn and FR SEC:nnn, which are the number of used and free sectors. FN:nn is the number of files on the disk.

In direct entry mode you do not select a file before entering commands. For example, hitting "D" will send you to DOS. Here is a list of direct entry functions:

- B - Sends you to BASIC
- D - Sends you to DOS
- F - Formats a disk
- L - Locks all files on disk
- P - Prints directory to printer
- U - Unlocks all files on disk

<ESC> - Use this to work with another disk. Insert a disk and press <ESC>; its directory will now be displayed.

To work with a file, use the up, down, left, and right arrow keys to move the arrow cursor to the file you wish to work with. Once you have selected your file press <RETURN>. If you selected the wrong file, press <ESC>. Then use the up, and down arrow keys to select your operation. (Always remember, if you make a wrong selection, hit <ESC> and you will go back to direct entry mode.)

These are the things you can do to a selected file:

- RUN - BASIC RUN
- LOAD - BASIC LOAD
- LOCK - Locks file
- UNLOCK - Unlocks file
- COPY - Copies file. Follow prompts.
- RENAME - Renames file
- ERASE - Deletes file.

```

1 GOSUB 116
2 GRAPHICS C0:POKE 710,130:POKE 712,13
0:POKE 1913,80:POKE 752,C1:TRAP 76
3 POSITION C0,C0:?"  -- DOS DRIVER -
- by Jeffrey Barber "
4 OPEN #C1,C4,C0,"K:":OPEN #C3,C6,C0,"
D:*.*)"
5 DIM A$(720),F$(C15),F1$(C5),N$(C14),
NF$(50),FAST$(39):F$="D1:":F1$="  RUN"
:D=C1
6 A$=" ":A$(720)=" ":A$(C2)=A$:YE=89
7 BS=FRE(0)-20
8 SLOC=SLOC+C18:INPUT #C3,NF$:IF NF$(C
1,C1)<>" " AND NF$(C1,C1)<>"*" THEN 10
9 A$(SLOC-C17,SLOC)=NF$:NF=NF+C1:GOTO
8
10 FSEC=VAL(NF$(C1,C3)):USEC=707-FSEC:
POSITION C0,C1:?"S-BUFF:":INT(BS/128)
:?" UD SC:":USEC:?" FR SC:":FSEC:?" FILES
:":NF:
11 SLOC1=-C18:POSITION C0,C2:?"{Q}{R}
{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}
{R}{R}{R}{R}{R}{R}{W}{R}{R}{R}{R}{R}{R}{R}
{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{E}
"
12 QE=NF/C2+C3:IF NF/C2=INT(NF/C2) THE
N QE=NF/C2+C2
13 FOR I=C3 TO QE:SLOC1=SLOC1+36:SLOC2
=SLOC2+36
14 POSITION C0,I:?"{SHIFT =}":A$(SLOC
1-C17,SLOC1)
15 POSITION C20,I:?"{SHIFT =}"
16 IF A$(SLOC2-15,SLOC2-15)<>" " THEN
POSITION 21,I:?"A$(SLOC2-C17,SLOC2)
17 POSITION 39,I:?"{SHIFT =}"
18 NEXT I
19 POSITION C0,I:?"{Z}{R}{R}{R}{R}{R}
{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}
{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}
{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{R}{C}"
20 FOR T=C3 TO I-C1:LOCATE 23,T,D1:IF
D1=32 THEN YQ=T:XQ=34
21 POSITION 23,T:?"CHR$(D1):NEXT T
22 POKE 730,C1:X=C14:Y=C3:XX=X:YY=Y
23 IF X=XQ AND Y=YQ THEN X=C14:Y=C3
24 POSITION XX,YY:?" ":POSITION X,Y:?"
{ESCAPE}{CLR TAB}"
25 GOSUB 60:XX=X:YY=Y
26 IF QQ<>66 AND QQ<>68 THEN 29
27 GOSUB 118:IF QQ=66 THEN NEW
28 DOS
29 IF QQ=27 THEN RUN
30 IF QQ=80 THEN 105
31 IF QQ=76 OR QQ=85 THEN 108

```

```

32 IF QQ=70 THEN 110
33 IF QQ=155 THEN 47
34 IF QQ=42 THEN X=X+20:GOTO 41
35 IF QQ=43 THEN X=X-C20:GOTO 39
36 IF QQ=61 THEN Y=Y+1:GOTO 45
37 IF QQ=45 THEN Y=Y-C1:GOTO 43
38 GOTO 25
39 IF X<14 THEN X=34
40 GOTO 23
41 IF X>34 THEN X=C14
42 GOTO 23
43 IF Y<C3 THEN Y=I-C1
44 GOTO 23
45 IF Y>I-C1 THEN Y=C3
46 GOTO 23
47 POSITION X,Y: F1$
48 GOSUB GC
49 IF QQ=27 THEN RUN
50 IF QQ=155 THEN 64
51 IF QQ=45 THEN D=D-C1:GOTO 54
52 IF QQ=61 THEN D=D+C1:GOTO 55
53 GOTO 48
54 IF D<C1 THEN D=C7
55 IF D>C7 THEN D=C1
56 IF D=1 THEN F1$=" RUN"
57 IF D=2 THEN F1$=" LOAD"
58 IF D=3 THEN F1$=" LOCK"
59 IF D=4 THEN F1$=" UNLCK"
60 IF D=5 THEN F1$=" COPY"
61 IF D=6 THEN F1$=" RENAM"
62 IF D=7 THEN F1$=" ERASE"
63 GOTO 47
64 P=C3:FOR T=11 TO C1 STEP -C1:QE=QE+
C1:LOCATE X-T,Y,D1
65 IF T=C3 AND D1<>32 THEN P=P+C1:F$(P
)="."
66 IF D1<>32 THEN P=P+C1:F$(P)=CHR$(D1
)
67 NEXT T
68 TRAP 76
69 IF D>C2 THEN 72
70 GOSUB 118:IF D=C1 THEN RUN F$
71 LOAD F$
72 IF D=C3 OR D=C4 THEN 80
73 IF D=C5 THEN 83
74 IF D=C6 THEN 77
75 GOTO 81
76 POSITION C0,C2: "(BELL)Error-";PEE
K(195):FOR T=C1 TO 350:NEXT T:RUN
77 POSITION C0,C1: "
"
78 POSITION C0,C1: "(BELL)New name";:
INPUT N$:NF$="D:":NF$(C3)=F$(C3):NF$(L
EN(NF$)+C1)="," :NF$(LEN(NF$)+C1)=N$

```

```

79 X10 32,#C3,C0,C0,NF$:RUN
80 X10 32+D,#C3,C0,C0,F$:RUN
81 POSITION C0,C1: "(BELL)Are you sur
e(Y-N) " :GOSUB GC
:IF QQ<>YE THEN RUN
82 X10 33,#C3,C0,C0,F$:RUN
83 DIM D$(BS)
84 POSITION C0,C1: "
"
85 POSITION C0,C1: "(BELL)Enter targe
t drive number:":GOSUB GC:TD=QQ:TD=TD
-48:IF TD<C1 OR TD>C4 THEN RUN
86 ? TD:TRAP 76:FAST$="hhh{J}{J}{J}{J}
{G}{INS LINE}B{C}h{INS LINE}E{C}h{IN
S LINE}D{C}h{INS LINE}I{C}h{INS LINE}H
{C} Vd{D}T {COMMA}{D}U{PERIOD}"
87 OPEN #C4,C4,C0,F$
88 Y1=C0:FAST$(C10,C10)=CHR$(C7):IF PN
>C0 AND TD=C1 THEN POSITION C0,C1: "(
BELL)Insert SOURCE disk and push RETUR
N.":GOSUB G
89 D$="":D$(C1)="," :D$(BS)="," :D$(C2)=
D$:PN=PN+C1
90 Y=USR(ADR(FAST$),C4,ADR(D$),BS)
91 Z=PEEK(40)+256*PEEK(41)
92 D$(Z)=D$(Z,Z):IF Z>=BS THEN Y=C1
93 IF Y=C1 THEN Y1=C1:GOTO 96
94 IF Y=136 THEN 96
95 GOTO 76
96 IF TD=C1 OR PN=C1 THEN POSITION C0,
C1: "(BELL)Insert TARGET disk and pus
h RETURN.":GOSUB GC
97 IF PN=C1 THEN TRAP 99:F$(C2,C2)=STR
$(TD):OPEN #C5,C4,C0,F$
98 IF PN=C1 THEN POSITION C0,C1: "(BE
LL)";F$(C4);" exists, overwrite(Y-N)
":GOSUB GC:IF QQ<>YE THEN 102
99 TRAP 76:IF PN=C1 THEN CLOSE #C5:OPE
N #C5,8,C0,F$
100 FAST$(C10,C10)=CHR$(11):Y=USR(ADR(
FAST$),C5,ADR(D$),Z)
101 IF Y1=C1 THEN 88
102 CLOSE #C5:IF PN=C1 THEN POSITION C
0,C1: "(BELL)Do you want another copy
?(Y-N) " :GOSUB GC:IF QQ=YE THEN
96
103 IF Y1<>C1 THEN CLOSE #5:CLOSE #4:P
OSITION C0,C1: "(BELL)Insert SOURCE d
isk and push RETURN.":GOSUB GC:RUN
104 NEW
105 SLOC=C0:OPEN #C7,8,C0,"P:":? #C7:C
HR$(C14);"- DOS Driver - By Jeffrey
Barber -"
106 ? #C7:"Directory List:":FOR I=C1 T

```

```

0 NF:SLOC=SLOC+C18:? #C7;A$(SLOC-C17,S
LOC),;NEXT I:? #C7:? #C7
107 ? #C7;"Used Sectors:";USEC;" -
Free Sectors:";FSEC;" - Number of
Files:";NF:? #C7:RUN
108 IF QQ=76 THEN XIO 35,#C3,C0,C0,"D:
*.*":RUN
109 XIO 36,#C3,C0,C0,"D:*. *":RUN
110 POSITION C0,C1:? "{BELL}Format whi
ch drive: ";GOSUB
GC:TD=QQ-48:IF TD<C1 OR TD>C4 THEN RUN

```

```

111 F$="D*:";F$(C2,C2)=STR$(TD)
112 POSITION C0,C1:? "Insert format di
sk in drive ";TD;"", RETURN.":GOSUB GC:
IF QQ>155 THEN RUN
113 XIO 254,#C2,C0,C0,F$
114 POSITION C0,C1:? "{BELL}Do you wan
t to format another(Y-N) ";GOSUB G
C:IF QQ=YE THEN 112
115 POSITION C0,C1:? "Insert MAIN disk
and press RETURN. ";GOSUB GC:RUN
116 C0=0:C1=1:C2=2:C3=3:C4=4:C5=5:C6=6
:C7=7:C10=10:C14=14:C15=15:C18=18:C20=
20:C17=17:GC=117:RETURN
117 GET #C1,QQ:RETURN
118 TRAP 104:GRAPHICS C0:RETURN

```

## THE SHELL GAME

Cracking Atari Logo

by Ann McBain Ezzell

First, I'd like to congratulate MACE member Craig McBain on the publication of "Turtle Piano" in the June '85 issue of Antic Magazine. Craig's procedures convert your Atari keyboard's "home" keys into a 12-key piano. Now, Craig, how about a Logo submission for the MACE Journal?

Last month in my editor's column I recommended some books about the Atari; here are a couple more suggestions specifically for Logo fans. Both are from Reston Publishing Company and can be ordered directly from them if you can't find them at your local computer or book store. (Reston: 11480 Sunset Hills Road, Reston, VA 22090 (800) 336-0338)

The Turtle's Sourcebook is a 226-page extravaganza written by Donna Bearden; Kathleen Martin, Ph.D.; and James H. Muller

of the Young Peoples' LOGO Association. It covers several versions of Logo, including Apple Logo, Color Logo, Cyberlogo, MIT Logo and TI Logo. Since Apple Logo and Atari Logo were both written by LCSi, most of the commands are the same. The introduction covers the major differences in Atari Logo. An appendix offers a cross-reference for the different versions, which would be very useful for anyone dealing with more than one machine (in a school, for example).

This book is full of "ideas on how to make the most of the time you and your children spend with Logo and the computer". For teachers, there are worksheets and other non-computer activities to reinforce the concepts learned with Logo. Anyone wanting to spend some time exploring Logo, with or without a child, would do well to purchase this book.

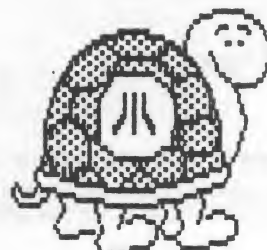
For children who want their own workbook, Jim Muller has written 1, 2, 3, My Computer & Me! (Atari version). It is written on a level children can understand and enjoy, without being condescending. If you can bear to see books written in, there are lots of spaces for notes, ideas and answers to problems. My son (he's 6) had a lot of fun playing with the Turtle Baseball "Experiment", where you place four stickers on the screen and try to move the turtle from base to base to score a home run. We have just started using this book, but it looks like it will be a lot of fun as well as educational.

This month's program - a Logo screen dump - comes from Atari Customer Support (remember the good old days?) via Bob Pettapiece. He says that it works fine on his Epson, although rather slowly; it doesn't work on my Gemini-10. Perhaps someone with a Gemini printer and some available time could convert it.

```

TO EPSON
SETWRITE "P:
TYPE CHAR 27
TYPE "A
TYPE CHAR 6
EPLINES 16384 48
TYPE CHAR 27
PR "@"

```





```
SETWRITE []
END
```

```
TO EPLINES :LOC :NUM
IF :NUM = 0 [STOP]
EPLINE :LOC 40 0
PR []
EPLINES :LOC + 80 :NUM - 1
END
```

```
TO TYPE2 :CHAR
TYPE :CHAR
TYPE :CHAR
END
```

```
TO EPBYTE1 :BYTE1 :BYTE2 :POS
TYPE2 CHAR ( IF :BYTE1 > ( :POS - 1 ) [56]
[0] ) + ( IF :BYTE1 > ( :POS - 1 ) [7] [0] )
IF :POS = 1 [STOP]
EPBYTE1 REMAINDER :BYTE1 :POS
REMAINDER :BYTE2 :POS :POS / 4
END
```

```
TO EXAM3 :LOC
OP 65536 * ( .EXAMINE :LOC ) + 256 * (
.EXAMINE :LOC + 1 ) + .EXAMINE :LOC + 2
END
```

```
TO EPBYTE :BYTE1 :BYTE2
IF AND :BYTE1 = 0 :BYTE2 = 0 [MAKE "SPACE
:SPACE + 1 STOP]
REPEAT :SPACE [TYPE "\ \ \ \ ]
MAKE "SPACE 0
TYPE CHAR 27
TYPE "K
TYPE CHAR 24
TYPE CHAR 0
EPBYTE1 :BYTE1 :BYTE2 4194304
END
```

```
TO EPLINE :LOC :BYTES :SPACE
IF :BYTES < 3 [EPBYTE 65536 * .EXAMINE
:LOC 65536 * .EXAMINE :LOC + 40 STOP]
EPBYTE EXAM3 :LOC EXAM3 :LOC + 40
EPLINE :LOC + 3 :BYTES - 3 :SPACE
END
```

```
MAKE "ARROW []
```

If anyone has an ideas about what sorts of things should be in this column, please let me know.

## MACE JOURNAL LISTING CONVENTIONS

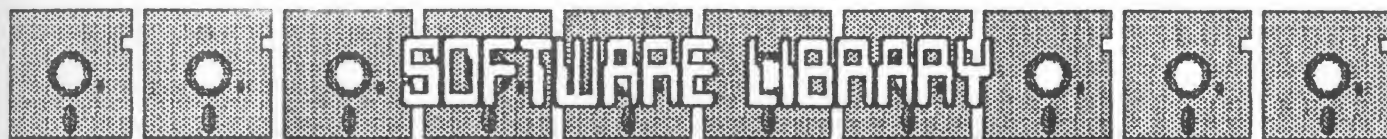
To reduce our readers' eyestrain, we have adopted a special method for listing programs. Programs will be listed in 38 column format, and certain characters will be replaced by an abbreviated form of their function, printed within curly braces (see below). Any characters to be typed in inverse video will be underlined, and control characters will be represented by their respective letters within curly braces. If a character within braces is also underlined, toggle the inverse video on and then hold down the control key while typing the character.

This method may seem awkward at first, but you should quickly get used to it, and the listings will be much easier to read. The special characters which will be spelled out are as follows:

When you see:      You should type:

{CLEAR}	ESC SHIFT <
{UP}	ESC CTRL -
{DOWN}	ESC CTRL =
{LEFT}	ESC CTRL +
{RIGHT}	ESC CTRL *
{BACK S}	ESC DELETE
{DELETE}	ESC CTRL DELETE
{INSERT}	ESC CTRL INSERT
{DEL LINE}	ESC SHIFT DELETE
{INS LINE}	ESC SHIFT INSERT
{TAB}	ESC TAB
{CLR TAB}	ESC CTRL TAB
{SET TAB}	ESC SHIFT TAB
{BELL}	ESC CTRL 2
{ESC}	ESC ESC
{COMMA}	CTRL , (comma)
{PERIOD}	CTRL . (period)
{SEMI-COLON}	CTRL ; (semi-colon)
{SHIFT =>}	SHIFT =

If you see:	Type:
{A}	CTRL A
<u>A</u>	INV. VIDEO A
{A}	INV. VIDEO CTRL A



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## PAGE ZERO

by Ann McBain Ezzell

No one complained about last month's column on BASIC error messages, so I will continue this time with the Input/Output (I/O) errors. You might want to check your peripheral manuals for more specific information, but this should get you started.

By the way, Program Coordinator Scott Garland told me that he once saw a reference to ERROR 1 which identified it as "Power Not On." Figure that one out!

### ERROR 128 - BREAK Abort

Someone (was it you?) hit the BREAK key during an I/O operation.

### ERROR 129 - IOCB Already Open

You have tried to open a channel which was already in use. Be careful always to close a channel after you finish with it, and don't put OPEN statements inside a loop. Stick to channels 1-5 for your own use, because #0 is used by the display editor (E!), #6 by the GRAPHICS statement and #7 by LPRINT, LIST, LOAD, SAVE and RUN (from disk or tape). END, NEW and RUN will close all I/O channels except for #0.

### ERROR 130 - Nonexistent Device

You have tried to access a device not in the handler table. Standard devices are: printer (P!), cassette (C!), display editor (E!), screen handler (S!), and keyboard (K!). The disk handler (D!) will be present if DOS was booted when turning on the computer. The RS-232 serial device handler (R!) will only be present if the 850 interface is on during power-up and if a proper AUTORUN.SYS file has been executed. (Such a file exists on the DOS Master Diskette.)

This error most commonly occurs because of improper booting of the RS-232 handler, but I have also seen it after mistakenly overwriting the DOS entry in the handler address table. (ACTION! does weird things with its variables unless you're VERY careful.) You will also see this if you forget to put a "D:" at the beginning of a disk filename.

### ERROR 131 - IOCB Write Only

You have tried to read from a channel which was opened only for output. If you will be using a channel for both reading and writing, be sure to open it that way.

### ERROR 132 - Illegal Handler Command

The Central I/O (CIO) has received an invalid command. Most probably, you have written an XIO command improperly.

### ERROR 133 - Device/File Not Open

You are trying to access a channel which is not yet open. Check for accidental closing of that channel instead of another; make sure that you are using the same channel number in your OPEN statement and I/O commands.

### ERROR 134 - Bad IOCB Number

From BASIC, you can only access channels 1-7 (preferably 1-5; see ERROR 129 above).

### ERROR 135 - IOCB Read Only

You are trying to write to a file which is open for reading only. (See ERROR 131 above.)

### ERROR 136 - End of File

The program encountered an End-of-File record or tried to read a disk sector that was not part of an open file (probably because of a bad sector link). You can use this error if you want to read all of a file into memory, but don't know how many bytes are in the file. Set up a loop to GET the bytes one at a time, but use the TRAP statement to check for error 136. When the program tries to read beyond the end of the file, it will generate error 136 and you can close the file and return to the main program. (See last month's column for a routine to check the error number.)

### ERROR 137 - Truncated Record

If you are trying to read in a record longer than the maximum size specified in the CIO call, you will get this error. This will occur if you create a file using byte oriented structure (PUT), then try to read it with INPUT, which is record based.

### ERROR 138 - Device Timeout

A peripheral did not respond within a specified time. This most commonly occurs when you have forgotten to turn on your printer or disk drive. It could also be due to a loose cable



connection. (The First Rule of Electronics: MAKE SURE IT'S PLUGGED IN!)

#### ERROR 139 - Device Malfunctions

Also known as Device NAK. The device cannot respond because of bad set-up parameters (baud rate, unaddressable sector, etc.). Check I/O cables and the syntax of your I/O command.

#### ERROR 140 - Serial Frame Error

The device is sending garbled data. Bit 7 of location 53775 (SKSTAT) is set. This may be an indication of a faulty disk drive or cassette recorder.

#### ERROR 141 - Cursor Out of Range

The cursor is beyond the limits for a particular graphics mode. Remember that the coordinates range from 0 to one less than the number of pixels (e.g. for Graphics 3, which has 40 columns, the horizontal coordinates can be from 0-39). You can either use TRAP to recover from this error or write your program so that the parameters for PLOT and similar statements are always within the legal range.

#### ERROR 142 - Serial Bus Frame Overrun

The system did not respond quickly enough to a serial bus input interrupt. Bit 5 of SKSTAT (53775) is set. Have your computer checked if this happens with any frequency.

#### ERROR 143 - Checksum Error

Garbled serial bus communication. The checksum sent by the device is not the same as that expected by the computer. Could be due to defective media. This error is the bane of the cassette owner's existence.

#### ERROR 144 - Device Done Error

The bane of the disk owner's existence. If you're lucky, it simply means that you have a write-protect tab on your disk, but who is that lucky? I used to have this problem frequently with disks written on my 810 drive. I could read the disks on the 810, but not on my 1050 or Indus. I got the drive cleaned and the head realigned, which seems (knock wood) to have cleared up the problem.

The MACE Newsletter (Vol. 1, #3) had some interesting information about this problem. According to Jonathan Earl, Newsletter

Editor, "It seems that the 810 drive does not always write exactly on the same track location, and that a small part of the old information is left visible. Enough of this "garbage", and you get bad clocking information which is the cause of error 144." Sounds good to me. If you are consistently getting this error on your disk files, I would suggest you get your drive checked.

#### ERROR 145 - Illegal Screen Mode

Also Read-After-Write Compare Error. There is a mistake in a graphics mode call or in one of the IOCB parameters. Or, the disk drive detected a difference between what it wrote and what it was supposed to write.

#### ERROR 146 - Function Not Implemented

You tried to input from an output-only device or vice versa. You cannot read from the printer or output to the keyboard.

#### ERROR 147 - Insufficient RAM

The graphics mode called by your program requires more memory than is available. You will have to compact your program, use a different graphics mode, or add more memory to your computer.

Errors 148 and 149 are not assigned. Errors 150 through 154 involve the RS-232 port and are "beyond the scope of this article". (If you are doing things with the RS-232 port, you probably aren't a beginner - what are you doing reading this?)

#### ERROR 160 - Drive Number Error

You specified a drive number other than 1-8, did not allocate a buffer for the drive, or your drive was not turned on at boot time.

Location 1802 (\$070A) indicates the maximum number of disk drives in your system, as well as which drives are allocated. The default for DOS 2.0 is two drives, numbers 1 and 2. Each bit of the value in 1802 corresponds to a specific drive number, with bit 0 = drive 1 and bit 7 = drive 8. Thus, the normal value placed in 1802 when DOS 2.0 is booted is 3 (00000011 in binary form, showing that drives 1 and 2 are available).

To add more drives to your system, you must poke the appropriate value into location 1802,

then call DOS and use option 'H' to write the modified DOS files. When you boot with the modified DOS, you will be able to access the additional drives. To specify a four drive system, you would POKE 1802,15 because 15 = 00001111 in binary form. For each drive you add, 128 bytes of RAM will be allocated for a drive buffer, so you shouldn't set up your system for more drives than you will need.

#### ERROR 161 - Too Many Open Files

Normally you can have a maximum of three files open at any given time. You can increase this to a maximum of 7 (one for each available IOCB, 1-7) by poking the desired number into location 1801 (\$0709). Each available file creates a 128 byte buffer. Remember to rewrite DOS as explained above to save your new configuration.

#### ERROR 162 - Disk Full

The Volume Table Of Contents (VTOC) on the disk indicates that there are no free sectors available. If there are errors in closing files or if the VTOC gets scrambled, you may "lose" sectors. Add up all of the sectors for the files on the disk; they should total 707. If you get a lower number, your best bet is to transfer all readable files to another disk and reformat the scrambled one.

**ERROR 163 - Unrecoverable Systems I/O Error**  
Your DOS or copy may be defective. Try using a new copy of DOS. Remember that you should always work with a COPY of your Master Diskette, safeguarding the original.

#### ERROR 164 - File Number Mismatch

Your disk file may be scrambled, with the links between sectors being disorganized and/or inconsistent. You may be able to patch such a file using a disk utility. This can also occur if you try to POINT to a sector which is not part of the open file. Check the POINT statement.

#### ERROR 165 - Bad File Name

File names must start with a letter and contain only uppercase letters and/or numbers. (Some non-Atari DOS's allow lower case letters.)

#### ERROR 166 - POINT Data Length Error

The byte count in a POINT call was greater than 125 (single density) or 253 (double

density). Check the POINT statement parameters.

#### ERROR 167 - File Locked

You cannot write to, delete or change the name of a locked file. Use DOS or the XIO command to unlock the file.

#### ERROR 168 - Invalid Device Command

You issued an illegal command to a device, such as an XIO command which does not exist or which is not valid for that device.

#### ERROR 169 - Directory Full

There is only room for 64 file names in the disk directory, regardless of number of free sectors.

#### ERROR 170 - File Not Found

You have attempted to access a file not listed in the disk directory. Check your spelling and make sure you are using the right disk. Consistency in using extenders for your filenames will help you to avoid this error.

#### ERROR 171 - POINT Invalid

The program tried to POINT to a byte in a file not opened for update. Check the parameters of the OPEN statement or IOCB command.

#### ERROR 172 - Illegal Append

You cannot append to DOS 1 files using DOS 2. The file must be copied to a DOS 2 diskette for the append operation.

#### ERROR 173 - Bad Sectors at Format Time

You either have a bad disk or a bad drive. First try another disk. If the error occurs frequently, have your disk drive checked. You could also try plugging the drive into its own circuit to isolate it from other devices (that helped our 810 when it was having trouble formatting).

Well, I hope that these explanations will be of some help to you. As you spend more time programming, you will find that the errors occur less and less frequently, but you will still get tripped up every now and then. Try to think of it as a learning experience. And remember - I am always looking for suggestions for this column. Let me know if you have any ideas.

## **ATARI BASIC FASTER and BETTER**

by Carl M. Evans

IJG, Inc.

\$15.95 (\$29.95 with disks)

Reviewed by Russell Crum

This book, as the name implies, is for those with a fairly good familiarity with Atari BASIC. It is a compilation of utilities and subroutines that can be used by BASIC programmers in their own programs. It is not a beginning tutorial on programming in BASIC.

Most of the utilities and subroutines are assembly language and are presented in assembly as well as in BASIC DATA statements. Although most of the routines are positioned in page six of memory, most are relocatable. This means that they could be placed elsewhere in memory or in a string. Mr. Evans discusses these aspects in the book.

There is a discussion of tradeoffs between program execution speed and program size. Definitions and general use of machine language routines in BASIC programs are addressed. These are very good chapters and fortunately the first three chapters of the book. Too many texts relegate subjects like this to an obscure appendix.

The remaining 13 chapters deal with subroutines for specific applications. Topics covered include memory handling, special string handling, bit manipulation, sort routines, page flipping, and sound effects.

Some detail on selected sections:

Memory techniques: reserving blocks of memory, moving and copying blocks of memory, storing variables in protected memory during a second program load, variable lister.

Number manipulation: simulating "PRINT USING", hex-decimal conversions, analysis of disk program files.

String handling: justification (right, left, center), location of a substring within another string, simulating string arrays.

Date and time manipulation: finding day of the year, number of days between dates, real time clock.

Bit manipulation: bitwise Boolean operations (or, and, xor)

Sorting: bubble and shell sort routines.

Operator I/O: keyboard input routines, menu handling, using special function keys, error detection on data entry.

Video: scrolling, page flipping, saving and retrieving graphics screens, graphics screen dump (Prowriter only).

Sound: nice compilation of special sound effects as well as a discussion of how Atari handles sound.

Misc. utilities: creating AUTORUN.SYS files for BASIC programs, catalog and printout of disk directories, disk RPM tester, nice mini-DOS that allows many DOS functions from Atari BASIC without calling the DOS 2.0 menu.

Appendices: listing of useful PEEK and POKE locations, decimal- hexadecimal- binary conversion tables, error codes- one of the better explanations of error codes that I have seen; e.g. "ERROR 5- String length error. This is probably one of the most common errors you will run into. This code means that you have either used 0 as the index for a string or you have tried to store data in an index location that is larger than the dimensioned length of the string." Mr. Evans then gives examples of wrong and right string length usage.

Most of the program listings are not terribly long to type in. The book uses a printing format where each logical statement is on a line by itself. This makes for some program listings that look formidable, although they really aren't. Disks are available with all of the programs on them for those who would rather take that route (2 double sided disks)

One utility that is not included in the book that is very handy is a routine for inputting a lot of DATA statements into a BASIC program. I feel that this should have been included

since, presumably, most people using this book will enter the routines as BASIC DATA statements. I personally use "TYPER'S TOOLBOX" from the Jan. 1984 issue of ANTIC magazine. A utility like this greatly facilitates typing DATA statements with few errors because it generates the line numbers, the word DATA, and the commas between data entries for you.

There is an errata sheet that comes with the book. However, I have found several additional typos in the book. Some of these are obvious and some are not so obvious. Fortunately, I haven't found any in the DATA statements within the programs (yet).

Are these routines and utilities useful? Yes, if you need them. Anyone with a fair understanding of BASIC and who is generating programs will probably find routines here to make a much more "professional" program. Routines to perform most of these functions can be found in various magazine articles and the MACE disk library. The advantage with this book is in having them in one convenient location.

My copy of the book came from ANTIC magazine via a Christmas gift (previously suggested of course). I haven't checked, but it may well be available through some of our MACE advertisers also.

## HAPPY BIRTHDAY MACE

You're in the Big League NOW!!!!

by B.J. Franczyk

This March our daughter celebrated her fifth birthday. After the party, I overheard a quiet conversation between her and her little friend who said to Erin, "You know, you are in the big league now!" While that statement caused me to smile I was intrigued as to what the "big league" was to a five year old. Katy went on to list all of the RESPECTED kids who were five and let Erin know she was now one of them. She listed a code of behavior for five year olds and gave inside information to Erin as to her responsibilities to the younger set.

Well, MACE, I never understood the wisdom of being five until that day. It is quite an accomplishment to have grown each and every year; to have the support of so many who have come together to give and to receive; and to share so much in knowledge and in friendship. We are truly judged by the company we keep and with MACE there is none better. You have grown in spite of the many discouragements that could have been detrimental to your health and with each and every disappointment you have come back stronger than ever.

God bless you MACE and your effort to live up to the responsibilities of your educating position. May your leaders be blessed with the wisdom to carry on in the fine tradition you have set and may you continue to be the leader and authority of all user groups throughout the world. Most of all, may you be around for many many more birthday celebrations.



BY JACOB EZZELL, AGE 6



## ATARI NEWS

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### HANDS-ON WITH ANTIC'S DEVELOPMENT 520ST

by Jack Powell, Antic Technical Editor

Our Atari 520ST just arrived in the Antic offices. This is the \$5,500 development package, and it includes the computer, two 3 1/2" disk drives, one medium-resolution (640 X 200) RGB analog monitor, and one mouse.

The software in the package is the "C" compiler, machine language assembler and debugger by Digital Research, the Mince screen editor by Mark of the Unicorn, Kermit -- a modem protocol program for file transfer, CP/M-68, and, of course, GEM -- which is in ROM in the machine.

On back order -- but expected soon -- is a high-resolution (640 X 400) monochrome monitor and a ten-megabyte hard disk.

Along with all this came 1000 pages of documentation and since it will take some time to digest all of this, we thought you might like a first impression of this new, high-level Atari computer.

The development 520ST is a preliminary model and there will be some changes between now and the time you see it in the stores, but all parts of this machine were factory made in the same manufacturing plants as the final product will be. The only real difference -- besides the price -- is that these machines were hand assembled.

The first thing you notice when taking the ST out of its box, is that it's very light. Although somewhat larger in size than the 800XL, it feels lighter. This may be because the shielding has not yet been added.

It looks exactly like the ST on our May cover, but there are some details you can't see from

the photograph. On the right edge of the machine, to the rear, are two joystick ports identical in appearance to current Atari joystick ports, except they are also used for the mouse.

On the left edge, rear -- opposite the joystick ports, is the cartridge slot. This will accept a 40-pin board -- 20 upper and 20 lower.

In back of the computer are various switches and ports, each labelled beneath and with an indicatig icon etched in the plastic above. From left to right they are:

- Reset - a small, square button
- Power - identical to previous Atari power switches
- Power In - 7-pin, male DIN
- MIDI Out - 5-pin, female DIN
- MIDI In - same as above
- Television - RCA, female
- Channel - mini-switch, labelled "L" "H"
- Monitor - 13-pin, female DIN
- Printer - female D-25, IBM-PC/Centronics compatible
- Modem - male D-25, IBM compatible
- Floppy Disk - 14-pin, female DIN
- Hard Disk - female D-19

Besides the standard keyboard and ten-key pad, are ten function keys, labelled F1 to F10. The isolated cursor section is particularly well designed with the lower three keys representing Left, Down and Right, and the Up arrow centered above them. On either side of the Up key are Insert and Clr/Home. The top two keys in the cluster -- which are enlarged -- are Help and Undo. The Undo key may become particularly useful.

The drives accept Sony 3 1/2" disks. To boot the machine, first turn on the drives and insert both disks before turning on the computer. A disk must be in a drive for the computer to later access that drive.

When booted, the GEM desktop appears as a light green background with pale blue border and black-outlined icons. In the upper right corner of the screen are two disk icons, one over the other, that look like file cabinet drawers. In the lower right corner of the screen is a trash can.

In the border area, above the upper left section of the green background, are the words, "DESK FILE VIEW OPTIONS." In the middle of the screen is a thin, black arrow-cursor which is moved by the mouse.

We'll save details on GEM for later articles. Suffice it to say, it is fast! It can re-draw an entire screen of icons in the blink of an eye.

This is just a surface description of an exciting new machine. Antic wants to get the information out to you as soon as possible and we plan to share our ST experiences as they happen. Stay tuned for further details.

## MAY '85 ANTIC SPECIAL BULLETIN

by Nat Friedland, Antic Editor

4/30/85 - To bring you the latest news, Antic contacted Atari top management on the first day they returned to Sunnyvale from the world's largest annual Electronics Fair in Hanover, West Germany.

The Hanover Fair is nearly five times as big as the huge CES. Atari had an exhibit there as large as their massive showing at Las Vegas in January. The ST was just as big a hit as it was during its CES debut. Atari was all over the European TV news throughout the fair.

Interestingly, because not too many Atari engineers or executives speak fluent German, the display was largely manned by enthusiastic volunteers from Atari Users Groups in Germany.

The impact of the ST in Europe may be even greater than in the US. That's because although Europeans have been greatly interested in the Macintosh, few machines have been sold due to the strong dollar. There's a pent-up Macintosh hunger that may well be filled by the much more affordable ST.

## JUNE CES FUROR

It's fascinating that when the Wall Street Journal broke the story that Atari had pulled

out of the June CES, they didn't mention that the reason none of the usual Atari spokesmen were around was because they were all in Hanover.

Also, neither the Journal or any of the other papers that picked up the Atari CES story mentioned that the 130XE is already in stores and that working 520ST prototypes are in the hands of software developers.

Although in hindsight it proved to be a public relations problem for Atari to drop out of the June CES -- actually it was a sound business decision.

There was no real need for Atari to blow at least \$500,000 simply to put a team on the CES floor in June. They unveiled the XE and ST at the January CES and all their efforts since then have been directed towards the crucial task of bringing the goods to market on time.

Antic's contacts said that Atari has every intention of taking hotel space in Chicago during the show to meet privately with dealers and display the latest software developments.

Antic was also told that with the coming of the ST, Atari plans to take part in shows that are specifically for computer stores. "Unfortunately, it's too late to put anything together for the Atlanta Comdex show in May," said one insider. "But don't be surprised to see Atari back in Chicago for the national Computer Conference in July."

## ST DELIVERY ??

In order to make this week's CompuServe uploading deadline, Antic was unable to wait for any latebreaking news about the actual shipping date of the first production STs, or about any developments in the proposed users group distribution.

Naturally, on their first day back after two weeks in Europe, the Atari team was sorting out the latest details themselves. As we wrote during our coverage of the Antic Third Birthday Party, Sam Tramiel announced there that the STs would ship at the end of April... or early May.

# AMAZED

by Patrick Steele

Maze games have been around for a while. So when you see another maze game, you don't think much of it. Well, I'm going to try to change that.

When Amazed is run, a maze in graphics 7 will be drawn. You are then 'shrunk' to fit inside the maze. At this reduced size, everything is much bigger, EVEN THE MAZE WALLS. The maze has been divided into 16 Graphics 3 screens. That's right, you can only see one sixteenth of the maze at a time!

Using joystick number 1, move yourself (the green dot) around the maze, trying to find the exit (a blue dot). You start at the upper left hand corner and must get to the lower right hand corner. The screen scrolls independently of you. This may seem an annoyance, because you may hit a wall but the screen will continue scrolling, but I did this so you can see how far you are from the exit at any time. Just move all the way to the lower right hand corner and you will see the blue dot. Just remember where you were when you started scrolling the screen around.

I am an 18 year old senior at Warren Woods Tower High school. I've known assembly language for a couple of years now and enjoy the increase in speed from BASIC. This program took about 3 weeks to do. The hardest part was the fine scrolling routines. If anybody has any questions about this program, leave a message to me, 'Remington Steele', at the Trading Post BBS (882-5909) or the MACE EAST BBS (978-1685).

Enjoy the mazes and have fun!!

[The following listing is the source code for the machine language program. The assembled version of Amazed will be available from the MACE disk library and on the MACE BBSs. -Ed.]

```

0100 WSYNC=54282      ;wait for horiz.
sync.
0110 COLPF0=53270     ;color 0
0120 DLIST=560        ;display list poi
nter
0130 DISP=$5000       ;screen display R
AM
0140 RANDOM=53770     ;random #
0150 SETVBI=$E45C     ;set vbi vector
0160 RETURN=$E462     ;ret. from vbi
0170 HSCROLL=54276    ;horiz. scroll
0180 VSCROLL=54277    ;vert. scroll
0190 STICK=632        ;stick 0
0200 TIMER=540        ;countdown timer
0210 XPNT=$8000       ;x,y coordinate
0220 YPNT=$9000       ;save RAM
0230 *=$B0
0240 X *=$+1          ;misc.
0250 Y *=$+1          ;variables
0260 XP *=$+1
0270 YP *=$+1
0280 LO *=$+1         ;a lo and hi pntr
.
0290 HI *=$+1
0300 DIR *=$+1        ;direction of mov
ement
0310 LOHOLD *=$+1     ;temporary hold
0320 HIHOLD *=$+1     ;registers
0330 XPOINT *=$+2
0340 YPOINT *=$+2
0350 Z1 *=$+1         ;used for the LOC
ATE
0360 Z2 *=$+1         ;of the 4 points
which
0370 Z3 *=$+1         ;surround the cur
rent
0380 Z4 *=$+1         ;x,y point
0390 HS *=$+1         ;horiz. scroll va
lue
0400 VS *=$+1         ;vert. scroll val
ue
0410 HD *=$+1
0420 VD *=$+1
0430 OX *=$+1
0440 OY *=$+1
0450 *=$600
0460 ;
0470 ; masks for plotting
0480 ;
0490 COLOR0
0500 .BYTE $3F,$CF,$F3,$FC
0510 COLOR1
0520 .BYTE $40,$10,$04,$01
0530 COLOR2

```

```

0540 .BYTE $80,$20,$08,$02
0550 COLOR3
0560 .BYTE $C0,$30,$0C,$03
0561 ;
0562 ; mask bits for locate
0563 ;
0570 TEST
0580 .BYTE $C0,$30,$0C,$03
0581 ;
0582 ; GR.7 display list
0583 ;
0590 LIST
0600 .BYTE 112,112,112,77
0610 .WORD DISP
0620 .BYTE 13,13,13,13,13,13,13,13
0630 .BYTE 13,13,13,13,13,13,13,13
0640 .BYTE 13,13,13,13,13,13,13,13
0650 .BYTE 13,13,13,13,13,13,13,13
0660 .BYTE 13,13,13,13,13,13,13,13
0670 .BYTE 13,13,13,13,13,13,13,13
0680 .BYTE 13,13,13,13,13,13,13,13
0690 .BYTE 13,13,13,13,13,13,13,13
0700 .BYTE 13,13,13,13,13,13,13,13
0710 .BYTE 13,13,13,13,13,13,13,13
0720 .BYTE 13,13,13,13,13,13,13,13
0730 .BYTE 13,13,13,13,13,13,13,65
0740 .WORD LIST
0750 GR3LIST
0760 .BYTE 112,112,112
0770 .BYTE 120,0,0,120,0,0,120,0,0
0780 .BYTE 120,0,0,120,0,0,120,0,0
0790 .BYTE 120,0,0,120,0,0,120,0,0
0800 .BYTE 120,0,0,120,0,0,120,0,0
0810 .BYTE 120,0,0,120,0,0,120,0,0
0820 .BYTE 120,0,0,120,0,0,120,0,0
0830 .BYTE 120,0,0,120,0,0,120,0,0
0840 .BYTE 120,0,0,120,0,0,120,0,0
0850 .BYTE 65
0860 .WORD GR3LIST
0861 ;
0862 ; x,y increments for joystick
0863 ; movement
0864 ;
0870 XI
0880 .BYTE 0,0,0,0,0,0,0,1,0,0
0890 .BYTE 0,255,0,0,0,0,0,0,0
0900 YI
0910 .BYTE 0,0,0,0,0,0,0,0,0,0
0920 .BYTE 0,0,1,255,0,0,0,0,0,0
0930 *=$6000
0940 JMP START
0941 ;
0942 ; area for saving the addr of each
0943 ; line of the gr.7 display
0944 ;
0950 LMSLO *=$+95
0960 LMSHI *=$+95
0961 ;
0962 ; plot calculator:
0963 ; multiply YP times 40 then get the
0964 ; addr of the screen RAM to be
0965 ; modified.
0966 ;
0970 PLOTCL
0980 LDA YP
0990 ASL A
1000 STA LO
1010 LDA #0
1020 STA HI ;#2
1030 ASL LO
1040 ROL HI ;#4
1050 ASL LO
1060 ROL HI ;#8
1070 LDA LO
1080 STA LOHOLD
1090 LDA HI
1100 STA HIHOLD
1110 ASL LO
1120 ROL HI ;#16
1130 ASL LO
1140 ROL HI ;#32
1150 LDA LO
1160 CLC
1170 ADC LOHOLD
1180 STA LO
1190 LDA HI
1200 ADC HIHOLD
1210 STA HI ;#32+#8=#40
1220 LDA LO ;add offset for
1230 CLC ;the screen RAM
1240 ADC #DISP&255
1250 STA LO
1260 LDA HI
1270 ADC #DISP/256
1280 STA HI
1290 LDA XP ;mask x-pos.
1300 AND #3
1310 TAX
1320 LDA XP
1330 LSR A
1340 LSR A
1350 CLC
1360 ADC LO
1370 STA LO
1380 LDA HI
1390 ADC #0

```



```

1400 STA HI
1410 RTS ;all done!
1420 PLOT0
1430 LDA X ;save x,y pos.
1440 STA XP
1450 LDA Y
1460 STA YP
1470 P0
1480 JSR PLOTCL
1490 LDA COLOR0,X ;plot a point in
1500 LDY #0 ;color 0
1510 AND (LO),Y
1520 STA (LO),Y
1530 RTS ;all done!
1540 XYUPDATE
1550 LDY #0 ;update the x,y
1560 LDA X ;pointers in RAM
1570 STA (XPOINT),Y
1580 LDA Y
1590 STA (YPOINT),Y
1600 LDA XPOINT
1610 CLC
1620 ADC #1
1630 STA XPOINT
1640 LDA XPOINT+1
1650 ADC #0
1660 STA XPOINT+1
1670 LDA YPOINT
1680 CLC
1690 ADC #1
1700 STA YPOINT
1710 LDA YPOINT+1
1720 ADC #0
1730 STA YPOINT+1
1740 RTS
1750 NEWXY
1760 LDA XPOINT ;get a new x,y
1770 SEC ;position after
1780 SBC #1 ;it has been deter-
rmined
1790 STA XPOINT ;that the current
1800 LDA XPOINT+1 ;x,y point has no
where
1810 SBC #0 ;to go, but in re-
verse!
1820 STA XPOINT+1
1830 LDA YPOINT
1840 SEC
1850 SBC #1
1860 STA YPOINT
1870 LDA YPOINT+1
1880 SBC #0
1890 STA YPOINT+1
1900 LDY #0

```

```

1910 LDA (XPOINT),Y
1920 STA X
1930 LDA (YPOINT),Y
1940 STA Y
1950 LDA X ;is x=2
1960 CMP #2
1970 BNE NOTDONE
1980 LDA Y ;and y=2
1990 CMP #2
2000 BNE NOTDONE
2010 PLA ;then we are all
2020 PLA ;done drawing!!
2030 JMP LOADLMS
2040 NOTDONE
2050 RTS ;do some more maz-
ing!
2060 LOCATE
2070 LDY #0
2080 LDA TEST,X ;get the test bit
2090 AND (LO),Y ;mask it with cur-
rent x,y pos.
2100 CMP COLOR1,X ;is it color 1
2110 BNE COL0
2120 LDA #1 ;yes!
2130 RTS
2140 COL0
2150 LDA #0 ;it must be color
0
2160 RTS
2170 START
2180 LDA #0 ;set horiz. and v-
ert.
2190 STA VS ;scroll regs. to
0
2200 STA HD
2210 STA VD
2220 LDA #15
2230 STA HS
2240 LDA #XPNT&255 ;set the x,y
2250 STA XPOINT ;table pointers
2260 LDA #XPNT/256
2270 STA XPOINT+1
2280 LDA #YPNT&255
2290 STA YPOINT
2300 LDA #YPNT/256
2310 STA YPOINT+1
2320 LDA #LIST&255 ;point to display
2330 STA DLIST ;list
2340 LDA #LIST/256
2350 STA DLIST+1
2360 CLEARSCRN
2370 LDA #0 ;start at x=0
2380 STA XP
2390 LDA #95 ;and y=95

```

2400	STA YP		2910	JSR LOCATE	;x,y-2
2410	CLEAR		2920	STA Z1	
2420	JSR PLOTCL	;get addr. of line	2930	LDA Y	
2430	LDA #0	;and clear out	2940	STA YP	
2440	LDY #39	;all 40 bytes in	2950	LDX X	
2450	CLR	;it	2960	INX	
2460	STA (LO),Y		2970	INX	
2470	DEY	;loop..	2980	STX XP	
2480	BPL CLR		2990	JSR PLOTCL	
2490	DEC YP		3000	JSR LOCATE	
2500	LDA YP		3010	STA Z2	;x+2,y
2510	CMP #\$FF		3020	LDA X	
2520	BNE CLEAR	;until done	3030	STA XP	
2530	LDA #1		3040	LDX Y	
2540	STA YP		3050	INX	
2550	LDA #0		3060	INX	
2560	STA XP		3070	STX YP	
2570	FIELD		3080	JSR PLOTCL	
2580	JSR PLOTCL	;draw out the	3090	JSR LOCATE	
2590	LDA #21	;field on which	3100	STA Z3	;x,y+2
2600	LDY #0	;the maze will be	3110	LDA Y	
2610	STA (LO),Y	;drawn	3120	STA YP	
2620	LDA #80		3130	LDX X	
2630	LDY #39		3140	DEX	
2640	STA (LO),Y		3150	DEX	
2650	LDY #1		3160	STX XP	
2660	LDA #85		3170	JSR PLOTCL	
2670	DRAW		3180	JSR LOCATE	
2680	STA (LO),Y		3190	STA Z4	;x-2,y
2690	INY		3200	LDA #0	;add them all up
2700	CPY #39		3210	CLC	
2710	BNE DRAW		3220	ADC Z1	
2720	INC YP		3230	ADC Z2	
2730	LDA YP		3240	ADC Z3	
2740	CMP #94		3250	ADC Z4	
2750	BNE FIELD		3260	BNE GETDIR	;if its not zero
2760	MAZE			then maze!!	
2770	LDA #2	;start at 2,2	3270	JSR NEWXY	;else, get a new
2780	STA X			x,y	
2790	STA Y		3280	JMP GETZ	;and start checki
2800	MOVE			ng again	
2810	JSR XYUPDATE	;and save those p	3290	GETDIR	
	oints		3300	LDA RANDOM	;get a rand.
2820	GETZ		3310	CMP #4	;direction
2830	JSR PLOT0	;plot, color 0	3320	BCS GETDIR	
2840	LDX Y	;now locate	3330	STA DIR	;and save it.
2850	DEX	;the four points	3340	LDA DIR	
2860	DEX	;around x,y	3350	BNE NOT0	;if dir=0
2870	STX YP		3360	LDA Z1	;decrement y by
2880	LDA X		3370	BEQ GETDIR	;2 and plot each
2890	STA XP		3380	DEC Y	;point in color 0
2900	JSR PLOTCL	;this is the loca	3390	JSR PLOT0	
	te for...		3400	DEC Y	
			3410	JMP MOVE	



HAPPY  
FIFTH  
BIRTHDAY



TO ALL OF  
US!



3420	NOT0			3960	STA GR3LIST+1,X	
3430	CMP #1	;if dir=1		3970	INY	
3440	BNE NOT1			3980	INX	
3450	LDA Z2	;and point is 0		3990	INX	
3460	BEQ GETDIR			4000	INX	
3470	INC X	;increment x by		4010	CPX #76	
3480	JSR PLOT0	;2		4020	BNE GETLMS	
3490	INC X			4030	LDA #GR3LIST&255;point to gr.3	
3500	JMP MOVE			4040	STA DLIST ;display	
3510	NOT1			4050	LDA #GR3LIST/256	
3520	CMP #2	;if dir=2		4060	STA DLIST+1	
3530	BNE NOT2			4070	LDA #7 ;set the vert.	
3540	LDA Z3	;and point is 0		4080	LDX #VBI/256 ;blank.	
3550	BEQ GETDIR			4090	LDY #VBI&255	
3560	INC Y	;inc. y by 2		4100	JSR SETVBI	
3570	JSR PLOT0			4110	LDA #156 ;put a color 3	
3580	INC Y			4120	STA XP ;dot at the end	
3590	JMP MOVE			4130	LDA #92 ;of the maze.	
3600	NOT2			4140	STA YP	
3610	CMP #3	;if dir=3		4150	JSR PLOTCL ;it'll be there	
3620	BNE OOPS			4160	LDY #0 ;if you ever get	
3630	LDA Z4	;and point is 0		4170	LDA COLOR3,X ;there!	
3640	BEQ GETDIR			4180	ORA (LO),Y ;ha!ha!ha!	
3650	DEC X	;dec. x by 2		4190	STA (LO),Y	
3660	JSR PLOT0			4200	LDA #2 ;start your journ	
3670	DEC X				ey	
3680	JMP MOVE			4210	STA X ;at 2,2	
3690	OOPS			4220	STA Y	
3700	LDA #15	;this will never		4230	PLXY	
3710	STA 708	;happen!!!		4240	LDA X ;save x and y	
3720	BRK			4250	STA XP	
3730	LOADLMS			4260	STA OX	
3740	LDA #0	;xp=0 and yp=1		4270	LDA Y	
3750	STA XP			4280	STA YP	
3760	LDA #1			4290	STA OY	
3770	STA YP			4300	JSR PLOTCL	
3780	LMS			4310	LDY #0	
3790	JSR PLOTCL	;find addr of RAM		4320	LDA (LO),Y	
3800	LDY YP			4330	AND TEST,X ;check if we hit	
3810	DEY			4340	CMP COLOR3,X ;color 3	
3820	LDA LO	;and save it		4350	BNE NOTCOL3 ;nope. keep tryin	
3830	STA LMSLO,Y				g!	
3840	LDA HI			4360	JMP WIN ;FINALLY!!	
3850	STA LMSHI,Y			4370	NOTCOL3	
3860	INC YP	;get next line		4380	LDA (LO),Y ;plot x,y	
3870	INY			4390	ORA COLOR2,X ;in color 2	
3880	CPY #95	;do all 95		4400	STA (LO),Y	
3890	BNE LMS			4410	LDA #2 ;a short delay	
3900	LDX #4			4420	STA TIMER	
3910	LDY #0			4430	WAIT	
3920	GETLMS			4440	LDA TIMER	
3930	LDA LMSLO,Y	;put the current		4450	BNE WAIT	
3940	STA GR3LIST,X	;pos. in the gr.3		4460	LDX STICK ;get stick dir.	
3950	LDA LMSHI,Y	;display list.		4470	LDA XP	



4480	CLC	;and add it to	4950	STA GR3LIST,Y	
4490	ADC XI,X		4960	LDA GR3LIST+1,Y;	move over 1 byte
4500	STA XP	;the x and y	4970	ADC #0	
4510	LDA YP	;pos.'s	4980	STA GR3LIST+1,Y	
4520	CLC		4990	INY	
4530	ADC YI,X		5000	INY	
4540	STA YP		5010	INY	
4550	JSR PLOTCL	;get addr.	5020	CPY #76	;loop until done
4560	JSR LOCATE	;check if 0	5030	BNE ADD1	
4570	BEQ XYOK	;its ok to move t	5040	JMP DONE	
here!			5050	CHK11	
4580	JMP PLOTDONE	;no movement.	5060	CMP #11	;moving left?
4590	XYOK		5070	BNE CHK13	;no, try down
4600	LDA XP	;now actually mov	5080	LDA HS	;can we move
e			5090	CMP #15	;anymore??
4610	STA X	;x and y points	5100	BEQ HS15	
4620	LDA YP		5110	INC HS	;YEP!
4630	STA Y		5120	JMP DONE	
4640	LDA OX		5130	HS15	
4650	STA XP		5140	LDA HD	;check for
4660	LDA OY		5150	BNE G011	;left edge of scr
4670	STA YP		een		
4680	JSR P0	;erase old spot	5160	JMP DONE	
4690	PLOTDONE		5170	G011	
4700	JMP PLXY	;keep looping.	5180	DEC HD	;reset the scroll
4710	LOOP		5190	LDA #0	;registers
4720	JMP LOOP		5200	STA HS	
4730	VBI		5210	LDY #4	
4740	LDA STICK	;moving right?	5220	SUB1	
4750	CMP #7		5230	LDA GR3LIST,Y	;and change the
4760	BNE CHK11	;nope, check left	5240	SEC	;display
4770	LDA HS	;if HS isnt 0,	5250	SBC #1	
4780	BEQ HS0		5260	STA GR3LIST,Y	;move back 1 byte
4790	DEC HS	;we can dec. it	5270	LDA GR3LIST+1,Y	
4800	JMP DONE		5280	SBC #0	
4810	HS0		5290	STA GR3LIST+1,Y	
4820	LDA HD	;otherwise, if we	5300	INY	
re			5310	INY	
4830	CMP #29	;not at the botto	5320	INY	
m			5330	CPY #76	
4840	BNE G07	;of the screen	5340	BNE SUB1	
4850	JMP DONE		5350	JMP DONE	
4860	G07		5360	CHK13	
4870	INC HD		5370	CMP #13	;moving down??
4880	LDA #15	;reset the scroll	5380	BNE CHK14	;no, check up
4890	STA HS	;pointers and	5390	LDA VS	
4900	LDY #4		5400	CMP #7	;can we move down
4910	ADD1		?		
4920	LDA GR3LIST,Y	;get the new memo	5410	BEQ VS7	
ry			5420	INC VS	;sure can!!
4930	CLC	;address's for th	5430	JMP DONE	
e			5440	VS7	
4940	ADC #1	;gr.3 displat lis	5450	LDA VD	;check for bottom
t			5460	CMP #70	;of screen.

```

5470 BNE 6013
5480 JMP DONE
5490 6013
5500 INC VD ;reset the scroll
5510 LDA #0 ;registers
5520 STA VS
5530 LDY #4
5540 ADD40
5550 LDA GR3LIST,Y ;and change
5560 CLC ;display list
5570 ADC #40
5580 STA GR3LIST,Y ;move down 40 bytes,
5590 LDA GR3LIST+1,Y;or 1 gr.7 line
5600 ADC #0
5610 STA GR3LIST+1,Y
5620 INY
5630 INY
5640 INY
5650 CPY #76
5660 BNE ADD40
5670 JMP DONE
5680 CHK14
5690 CMP #14 ;moving up??
5700 BNE DONE ;nope, all done.
5710 LDA VS
5720 BEQ VS0 ;can we move up?
5730 DEC VS ;yep.
5740 JMP DONE
5750 VS0
5760 LDA VD ;are we at the top?
5770 BEQ DONE ;yes, dont move.
5780 DEC VD
5790 LDA #7 ;reset the scroll
5800 STA VS ;registers
5810 LDY #4
5820 SUB40
5830 LDA GR3LIST,Y ;and change the
5840 SEC ;display list
5850 SBC #40
5860 STA GR3LIST,Y ;move up 40 bytes
5870 LDA GR3LIST+1,Y;or 1 gr.7 line
5880 SBC #0
5890 STA GR3LIST+1,Y
5900 INY
5910 INY
5920 INY
5930 CPY #76
5940 BNE SUB40
5950 DONE
5960 LDA HS ;update the scroll

```

1

```

5970 STA HSCROLL ;registers
5980 LDA VS
5990 STA VSCROLL
6000 JMP RETURN ;and finis!
6010 WIN
6020 INX ;YEAH!! get a new
color
6030 STX WSYNC ;wait for sync.
6040 STX COLPF0 ;and display it.
6050 JMP WIN

```



## COMING ATTRACTIONS

June 18th

**\*\* BBS demo \*\***

**\*\*\* Assembler primer \*\*\***

**\*\* Golfer's Database demo \*\***

### SWAP Night

Either the July or the August meeting will be another MACE Swap Night. This will be basically the same as previous Swap Nights, except that everyone desiring a table **MUST PRE-REGISTER**. There will be no walk-in registration for table space. Contact Program Coordinator Scott Garland to arrange for space - it's not too soon to do it right now.

Table space is available to members only; there is no charge. Only original software or hardware may be sold. Look for a notice in the next Journal for more details.



Anyone who would like to make a presentation at a meeting or be available to answer questions from the audience - please contact Scott Garland and let him know.

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**NEXT MEETING: 6/18/85 7:00 PM**

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